Report

Morocco
Urban Development Assessment

November 1998

Task Order No. 818
USAID Contract No. PCE-I-00-96-00002-00

MOROCCO URBAN DEVELOPMENT ASSESSMENT

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November 1998

For
USAID/Morocco
Environmental Urban Division

Environmental Policy and Institutional Strengthening Indefinite Quantity Contract (EPIQ)
Partners: International Resources Group, Winrock International, and Harvard Institute for International Development

Subcontractors: PADCO; Management Systems International; and Development Alternatives, Inc.

Collaborating Institutions: Center for Naval Analysis Corporation; Conservation International; KBN Engineering and Applied Sciences, Inc.; Keller-Bliesner Engineering; Resource Management International, Inc.; Tellus Institute; Urban Institute; and World Resources Institute

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Acknowledgments

This Urban Development Assessment is the result of roughly a month of field work by the PADCO team in Morocco. The team included:

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Driss Benjelloun, Urban Planner
Paul Saada, Economist and Financial Specialist

The study could not have been successfully completed without assistance from a number of key Moroccan professionals working in urban and environmental development at both the national and local levels. Deepest appreciation for their help, collaboration, and guidance is extended to:

In Rabat:

Mr. Mohamed Ameur, Permanent Secretary of MATEUH
Mr. Aziz Filali, General Director of ANHI
Mr. Najib Benyahia, Permanent Secretary of ANHI
Mrs. Bani Ayachi, Director of Studies for the State Secretary Charged with the Environment; and

In Agadir:

Mr. Mrahi Benali, General Director of ANHI

Deepest appreciation is also extended to the Wali of Agadir, Governor of Chtouka Aït Baha, President of the Municipal Councils of Temsia, Permanent Secretary of the Municipality of Aït Melloul, President of the Urban Community of Agadir, Permanent Secretary of the Prefecture of Inezgane-Aït Melloul, and to the different local offices that were visited (RAMSA, FEC, Plan, Department of Hydrology, etc.).

Finally, members of the team would like to express their deepest appreciation for the support and confidence they received from USAID/Morocco and Ms. Tina Dooley-Jones and Mr. Tahar Berrada during the duration of this assignment.

1 Executive Summary

Morocco has experienced a wide range of very significant changes over the past 20 years that have had an unprecedented impact on its social and physical character. While urbanization and urban development have been at the very core of these changes, they have had varying degrees of impact on the different sectors (e.g., demography, economy, finance, education, health, housing, etc.) and on the spatial distribution of the population (e.g., urban and rural areas in general, large cities, small cities, etc.). There is no doubt, however, that a fundamental transformation from a predominantly rural society to one that is increasingly urban has been taking place. Between the 1982 and 1994 censuses alone, for example, there has been an increase of more than 1 million urban families. These new families have new patterns of consumption, make new and growing demands on agricultural productivity, generate greater natural resource needs and throughputs, and substantially alter the spatial distribution of the population and its impact on the built and natural environments. The redistribution of this population has created additional needs and opportunities for modern, non-agricultural employment and for administrative changes that involve greater local participation and more democratic means of governance.

1.1 National-Level Assessment

A number of factors have been contributing to changes over time in the pace and direction of this process of urbanization. First, more and more rural residents are migrating to small and medium-sized towns rather than to large cities. Although migrants from distant rural areas still tend to target the largest cities, the most typical pattern of migration since 1982 involves movement from a rural hinterland to a regional capital or other nearby medium-sized town. The administrative increase in the number of provincial capitals and urban municipalities has contributed to this phenomenon. Given the fact that the urban management capacity of these towns is significantly lower than that of their larger counterparts, this shift may complicate, at least in the short run, any integrated public sector attempt to improve the quality of urban growth resulting from rural urban migration.

Second, the capacity of the urban economy in these towns to absorb rural migrants is decreasing. The boom in industry and services in the 1970s has proved unsustainable, and real growth rates in those sectors have been dropping for 20 years. This reduces the capacity of cities to provide jobs for migrants, even though there is some indication that the unemployment rate is lower among recent migrants than it is among other urban residents.

Third, the public service gap between urban and rural areas is widening. Potable water connection rates, for example, have been climbing steadily in urban areas since 1970, but have remained relatively static in rural areas. Solid waste collection services now benefit 85 percent of the urban population, but only 2 percent of rural residents. Education and health facilities remain concentrated in large and medium-sized towns. As this gap in services widens, life in the cities becomes visibly more attractive. Taking this into account, rural dwellers are increasingly likely to move to urban areas, which, in the absence of more effective growth management, will lead to more unauthorized development and associated problems.

Some of the major national-level findings from the assessment include the following.

1. ***Although the overall population growth rate is now declining, rapid urbanization continues, particularly in certain regions and for small and medium-sized cities. Morocco's total population in 2020 is projected to be 37.38 million people with 70 percent living in cities. This dramatic***

increase in urban population will have important consequences on population needs for health services, education, shelter, and employment.

2. ***Agriculture continues to play the determining role in the national economy, with as much as 29 percent of value added and 30 percent of the country's exports. As a result, the national economy remains vulnerable to climatic conditions despite major efforts to achieve diversification. The economy does not significantly benefit from the performance of other sectors. One encouraging development is that the private sector now produces more than 60 percent of national value added.***

3. ***While absolute poverty is declining, unemployment and underemployment in urban areas continue to be important issues, particularly for the young, educated population. Roughly 13 percent of the total population, 18 percent of the rural population, and close to 8 percent of the urban population are considered to be "poor."***

4. ***The national urban framework continues to be restructured and reorganized even as urban problems become more difficult and complex. The rapid increase in the number of urban centers has been one of the most visible indications of strong urban pressures in Morocco over the past several decades. Within a period of 34 years, the number of cities in Morocco has more than tripled. Many of these new cities are former rural agglomerations that do not have the basic structures in place necessary to fulfill their new urban functions.***

5. ***Urban legislation and related institutional arrangements have not been adequate to manage urban growth. While the nature, speed, and size of urban development have changed considerably since Morocco's independence in the mid-1950s, the legal framework established to deal with this growth has become increasingly tedious and restrictive. Although high in technical quality, many of the current planning documents and related regulations do not respond to the real development needs of a large part of the Moroccan population.***

6. ***Infrastructure and service disparities remain between urban and rural areas and between city centers and their urban peripheries. Connection rates for potable water, electricity, and sewage networks are considerably higher in urban than in rural areas. Substandard housing areas located on the urban periphery also suffer from a lack of services. Problems related to the provision of community facilities (e.g., schools, health care, culture, and sports) are even greater in these peripheral areas due to the unavailability of land.***

7. ***Bidonvilles and other forms of substandard housing are once again increasing as traditional low-income housing areas become saturated and more and more migrants are moving into small and medium-sized cities. Since independence, the struggle against substandard housing has been a major ongoing focus of the government. Despite government programs and efforts, a renewed and visible outbreak of bidonvilles is now taking place due to growing problems in the delivery of affordable housing for low- and moderate-income households.***

8. ***There is increasing competition for limited water resources due to the increase in urban population and the need for greater agricultural productivity to feed them. Rising water demand for urban, industrial and agricultural uses is putting greater pressure on existing water resources. Agriculture has been and will continue to be the single largest user, consuming almost 10,000 Mm^3 in 1998 and about 13,500 Mm^3 by the year 2020. While current urban and industrial uses are more modest at 2,000 Mm^3, they are increasing more rapidly than any others. Urban uses are projected to rise***

to 3,805 Mm^3 annually by the year 2020, representing a threefold increase compared to current consumption.

9. ***The deconcentration of government administrative representation is increasing within the overall process of decentralization. The Moroccan government has attempted to govern the country's rapidly growing population by steadily increasing the number of administrative units in tandem with the growth in population. Since the majority of this population growth has occurred in urban areas, government representation in the country's cities has significantly increased. The number of provinces and prefectures increased from 45 in 1982 to 65 in 1994. During the same 12-year period, the number of municipalities grew almost fivefold, from 45 to 248. It is in these urban areas where the new relationships for everyday governance are being developed.***

10. ***A growing realization is taking hold among government decision makers that civil society has an important role to play in urban development and modernization. Over the past 15 years, a gradual though important shift has been taking place in government attitudes toward local governance and decision making due to urbanization. Public authorities increasingly recognize that government can no longer be the driving force behind urban development. Private sector and resident participation must be engaged in the preparation, implementation, and management of urban development in order to achieve desired results.***

1.2 Regional-Level Assessment

The pattern of urbanization in the Souss-Massa River Basin is a more recent reflection of the overall development process experienced by the country since the time of the Protectorate. It includes large-scale modern investment and development along the coast, major rural urban migration and population displacement toward this development, rapid uncontrolled urban growth and agricultural change in the immediate hinterland behind the coastal area, and the stagnation and/or deterioration of traditional cities and rural areas in the interior.

Despite somewhat discouraging physical results, urban development within the region has followed a very logical course. Significant investments in the reconstruction of Agadir and tourism development following the earthquake of 1961 created the need for manual workers and started the ongoing process of rural-urban migration within the region. The very planned and controlled development of Agadir, and the high land and housing prices that resulted from this approach, made it very difficult for low-income workers to find housing within Agadir itself. Most of them were obliged to settle in smaller and administratively weaker municipalities located on its periphery. A pattern of urban development and growth occurred that was common to other Moroccan cities as well. Uncontrolled urban growth on the peripheries of these smaller municipalities was essentially outside any legal jurisdiction and/or local capacity to control. Small communes and municipalities on the periphery of major cities have generally been more interested in increasing their population and economic activity than in the quality or type of development that takes place. The industrial area in Aït Melloul/Inezgane is a good example of municipality preference for jobs over environmental concerns.

Some of the major regional-level findings from the assessment include the following.

1. ***Population in the Souss-Massa River Basin is growing at a faster rate than that of both the national level and the economic/administrative region. The population of the river basin more than doubled from 865,000 in 1971 to 1,878,000 in 1997, an increase of 117 percent over a period of 26 years. This compares to a national-level increase of 78 percent and an increase for the economic/administrative region of 83 percent. Migration is a very old phenomenon in the region***

with 4.6 percent of the population affected by migration in 1994. Internal migration within the region continues to be high, with important impacts on its development.

2. *The region is the second most important center of economic activity in the country, with a fragile economic and environmental balance among tourism, agriculture, and urban development. The reconstruction of the city of Agadir after the earthquake of 1961 brought in large amounts of capital that spurred economic development and created a significant amount of employment. Tourism added to this economic and employment growth. The main components of the region's economy (agriculture, tourism, and urban development) are now very closely linked and depend on the sustainable use of the same natural resource base in order to succeed.*

3. *Rural poverty continues to be a major problem within the region, which has a higher rate of rural poverty (28 percent) than most other areas of the country. Many of these poor families are likely to move to urban areas in search of work and economic improvement.*

4. *Significant changes in the urban structure of the region are taking place as it continues to urbanize. The number of municipalities in the region has grown from 9 in 1971 to 20 in 1994. Rural-urban migration has had a particular effect on medium-sized cities with more than 50,000 inhabitants, which grew in number from one to five (four of which are located in the Greater Agadir area). The urban structure of the region has also been affected by rapid urban development along the Souss River and the national highways that run parallel to it.*

5. *Legal planning documents, limited registered land available for development, and the absence of local authority ability to control development restrain rather than encourage urban and housing development in the area. Current urban development plans, regulations, and procedures related to housing have forced a growing number of individual house owners to build their units illegally. Only the master plan (SDAU) for Greater Agadir has been approved and put into law.*

6. *The environmental infrastructure (water, wastewater, and solid waste collection) for cities outside Greater Agadir is generally inadequate or incomplete. RAMSA is responsible for water and waste-water activities throughout Greater Agadir, which encompassed an estimated population of about 500,000 in 1994. ONEP serves about one-half the population living in the built-up area between Greater Agadir and Taroudannt. Small municipalities not covered by RAMSA or ONEP have to provide their own drinking water. Wastewater networks are much less developed and virtually all of their outflow is untreated. Solid waste collection varies considerably depending on municipality and local association activity.*

7. *The numbers of bidonville and other substandard housing are once again increasing. The last survey of bidonvilles in the region showed that the number of households living in bidonville housing units had increased from 9,350 in 1989 to 12,530 in 1992. Greater Agadir now has the third highest concentration of bidonvilles among Moroccan cities. This is in addition to the large amount of substandard housing built from solid materials, which has also increased.*

8. *Growing potentials for water conflict exist between agricultural and urban uses. While water demand in the region continues to rise, supply remains relatively static. Since the flow of the Souss River is irregular and that of Atlas mountain water courses relatively weak, little additional supply can be mobilized by new investments.*

9. *There is no organization in the Souss-Massa region responsible for coordinating its planning and development. Whether or not the new Regional Councils will be able to manage the economic development of the region is still unclear. In any case, the current complex system of government administration will remain in place. Several existing agencies already work on a regional basis and could immediately support the implementation of regionally oriented programs.*

10. *Community participation in development is relatively new in the region, with more associations active in its semi-rural areas than in its cities. The number of associations in the region is estimated at 120. Local authority attitudes are still ambivalent about the potential role of associations in urban areas.*

1.3 Local-Level Assessment

With the exception of Morocco's most important cities, the overwhelming majority of the country's 248 municipalities are ill prepared to promote or manage their own development. Virtually all of these municipalities are seriously understaffed in terms of professionals and administrators, with little financial resources to promote or control their growth. At the same time, these municipalities are saddled with the almost impossible task of turning technical planning concepts into private sector actions without having the necessary technical nor financial resources to do so. Within this context, most elected officials focus on short-term, small-scale projects aimed at satisfying constituents and promoting reelection. Because of this situation, most municipalities are mainly interested in growth and not the extent to which it has been planned and organized. Aside from the layout of roads, there is relatively little they can do to organize development.

Some of the major local level findings from the assessment include the following.

1. *Aït Melloul and Temsia are typical centers of rapid urban population growth in the Souss-Massa River Basin. The population of Aït Melloul, currently estimated at more then 100,000, represents close to 12 percent of the total population of the river basin. The city's population has grown very sharply over the past 26 years, from some 6,000 in 1981 to 103,000 in 1997. The population of the urban center of Temsia has more than doubled, from 3,200 in 1982 to 6,730 in 1997. Its average annual rate of growth has been close to 5 percent and is expected to increase to 6.7 percent between 1994 and 2010.*

2. *The economic bases for Aït Melloul and Temsia are relatively weak and narrow. Aït Melloul is located on a major road intersection, which has enabled the city to become a large truck stop for the transfer of goods and the site of popular open air markets for agricultural produce. As Agadir grew, the city also became a center of industrial development. Temsia is very much an agricultural area. Crops include tomatoes, garden vegetables, and fruits from the surrounding orchards. Most of the agricultural operations around the city are small with very little mechanization.*

3. *Urban core areas in the two cities are surrounded by haphazard, unauthorized residential development, with a large proportion of substandard and underserviced housing. This pattern of development is now common throughout Morocco.*

4. *Planning documents are still in the approval process, with implementation susceptible to be influenced by the agendas of elected officials. The detailed development plans for both Aït Melloul and Temsia are being prepared by private consulting firms. The plan for Temsia has been transmitted to the Ministry of Interior for approval. Without any plan, much of the available land for development has already been subdivided and sold without authorization.*

5. *Serious deficiencies exist in environmental infrastructure for water, wastewater, and solid waste in the substandard housing areas around the periphery of these cities.*

6. *The proportion of substandard housing in the housing stock is growing. Some 7.4 percent of the population in Aït Melloul live in bidonvilles. In Temsia, roughly 11 percent of the population live in housing classified as rural. New substandard housing is being built between the main road and the Souss River in small, dispersed groups.*

7. *Municipal organization is very flat with very few professional employees. The municipality of Aït Melloul has a total of seven professional and qualified administrative staff even though its official organization chart shows 5 divisions, 11 departments, and 34 different offices. The official organization of even such a large municipality in the region is clearly very flat with little relation to the actual work that is being done. The result is a very poor fit between the organization of the municipality and the activities it carries out. In Temsia, the president of the council, who is also a parliamentarian for the region, is the driving force behind the activities and development of the city.*

8. *Associations are active in small urban centers that are unable to provide necessary services. Residents in Temsia have formed an association for the drilling of wells, the construction of a water tower, and provision of water to households through individual connections and standpipes. There is a virtual absence of recognized associations in Aït Melloul.*

1.4 Cross-Cutting Issues

Four major cross-cutting issues were identified for review. These included decentralization, community participation, partnerships, and water and its impact on health.

Decentralization

Morocco has committed itself to a policy of decentralization through a steady stream of confirmations by the king and incremental measures aimed at strengthening municipal and regional authorities. The intent, if not always the result, of these measures has been one of decentralization and deconcentration of government territorial administration. The density and complexity of existing administrative units, however, makes it very difficult to identify exact responsibilities for many development tasks. This effectively reinforces the role of central government as the ultimate decision maker.

The relative slowness in Morocco's process of decentralization has also been due at least in part to the existence of very limited human and financial resources at virtually all levels of government. Municipalities in Morocco have always been managed as traditional administrative structures. Little improvement or modernization has been made in their manner of operation, and most remain very poorly equipped in terms of modern office machines and materials. Bureaucratic budget considerations play an important role in decisions to maintain central control or to develop shared responsibilities with local entities.

Community Participation

Widespread urbanization and the substantial growth of already highly populated urban areas have had very significant impacts on public participation in governance through both formal institutions and informal relationships. Formal institutions of governance in urban areas include regional and provincial representatives of central authority and elected officials in urban centers and municipalities throughout the country. Informal components of governance include the rapidly growing number of

neighborhood associations, which have now reached a total estimated at between 17,000 and 30,000. Public participation related to these two elements of governance continues to evolve as decentralization is pursued.

The rapidly growing emergence of neighborhood associations to serve a variety of practical purposes is the most notable and visible change in local governance and decision making over the past several years. Making the transition from discrete/localized experiences in community participation to the practice of urban governance is the next important step. Increased community participation is not a choice between government and private/community sectors, but rather the catalyst for greater coordination of their complementary roles and activities. The encouragement of community action and involvement lie at the core of good governance, effective urban management, and sustainable development.

The association approach to community participation, though still new and evolving, has shown some very positive aspects that include their undeniable role in:

- *visibly improving the urban environment;*
- *creating small-scale employment; and*
- *developing a participatory culture that encourages democracy in decision making, good citizenship, etc.*

Public-Private Partnerships

Partnership arrangements provide one of the most effective ways to broaden both the financial and technical resource pools for local development. Local authorities acting alone cannot be expected to respond to the multitude of development opportunities and needs within their jurisdictions. Local resource management, economic development, and environmental protection will increasingly depend on coordinated approaches between the public and private sectors at the national, regional, and local levels. Various combinations of development partnerships can be initiated aimed at reinforcing and expanding development activities.

Water and Health

Deficiencies in environmental service management have a direct impact on public health. Contamination of groundwater and surface water resources by fecal matter is a major cause of diarrhea, cholera, typhoid fever, and other water-borne diseases. In urban areas in Morocco, this type of contamination occurs when:

- *on-plot wastewater facilities, such as pit latrines and septic tanks, are used in high density settlements, which, in turn, leads to seepage of excessive amounts of wastewater into the aquifer; or*
- *piped collection systems discharge untreated wastewater directly into the natural environment, which, in turn, either penetrates the ground, thereby contaminating groundwater resources, or contaminates surface water, such as rivers and streams.*

Inadequate solid waste disposal can also cause bacteria, viruses, and parasites to enter the potable water system. Leachate seepage from unsanitary dumpsites can contaminate groundwater supplies. Dumping of waste into stream and river beds pollutes surface waters, especially during the rainy season, and can lead to subsequent penetration of contaminated river water into the aquifer.

Finally, reuse of untreated wastewater for irrigation can lead to the spread of similar diseases. This is especially true where wastewater makes direct contact with vegetables or other crops that do not undergo subsequent processing prior to consumption.

1.5 Major Issues

Urbanization in Morocco encompasses an extensive range of issues that relate to the interaction between urban growth and development. The current process involves a very fundamental transformation of Moroccan society from one predominantly rural to increasingly urban. Never before has this type of change occurred in Morocco on such a large scale or wide geographic basis. It has not only provoked massive changes in the physical location and needs of the population, but has also introduced major changes in traditions, patterns of consumption, attitudes, institutional arrangements, knowledge base, political awareness, etc. The very size and complexity of this change makes it difficult to identify a general consensus of priority issues. Five issues are presented that attempt to suggest some of the areas to be addressed.

Issue 1: Insufficient coordination of development efforts

Insufficient coordination in development efforts is a common issue in countries experiencing very rapid urbanization and urban growth. The problem in Morocco, however, is exacerbated by the dual administrative track of elected and appointed government authorities and by the ambiguities and uncertainties inherent in their relationships. The lack of clearly specified development roles and responsibilities within these agencies has a negative effect on overall development activities. Many programs and projects are conceived and implemented within the limits of particular agencies and administrative boundaries and do not seek to maximize their impact and/or create broader areas of synergy. While cooperative working relations have been established between certain agencies and administrations, most of this effort has depended on individual initiatives and relationships.

An overall vision of development within the Souss-Massa region is also currently missing. While the new regional authority could begin to play a coordinating role for the region, its relationship to the development activities of existing administrations and agencies is not yet clear. Regional authorities and agencies can take the lead in identifying the land use and environmental implications of sectoral policies in agriculture, energy, industry, housing, transportation, the provision of infrastructure, and waste management. They can also set the basic relationships and balance between economic and environmental considerations that will contribute to sustainable development.

Issue 2: Lack of reality in the planning and regulatory system

The planning and regulatory system in Morocco, like that in many other developing countries, has been based on outside models that do not fit very well with rapid urbanization. One of the major lessons learned from recent experience has been that the high level of technical competence and planning skills incorporated into planning documents have been insufficient to produce the desired results on the ground. This lack of success has largely been due to the technical vacuum in which the plans have been produced. Adequate contact with the local community and key information on land ownership have been missing. The current system, with its heavy reliance on physical plans and regulations, forces a large portion of the population to build illegally and, by doing so, limits the amount of local resources (e.g., formal credit, community participation, etc.) that can be generated for urban development. In this regard, current practices have had a more negative than positive impact on development.

Successful urban planning depends on sound information and the support of people at all levels of government, the private sector, and citizenry. The involvement of the local population as an integral

contributor to the plan preparation and implementation process is an absolute necessity, since they are the stakeholders most directly affected by the planning effort. Effective urban planning also requires local knowledge, involvement, and spirit to provide the necessary energy, staying power, and creative ideas that will lead to successful implementation.

Issue 3: Lack of distinction between urban growth and urban development

Urban development is often confused with urban growth. While urban growth is a quantitative concept involving the physical expansion of a city's built-up area, economy, boundaries, etc., urban development is more of a qualitative approach incorporating ideas for improvement and progress in cultural, social, and economic dimensions, as well as in the quality of the life for the residents themselves. Because of rapid urbanization, Morocco has generally focused more on urban growth than on the creation of sustainable urban development. Achieving social equity through community quality is one of the primary goals of a development process based on the creation of various investment synergies.

Issue 4: Inadequate awareness of the links between urban development and natural resources

Sustainable development involves the continuing supply of resources for future generations. It involves establishing patterns of development that minimize energy consumption, maintain land productivity, and encourage the recycling of urban throughput. Taken seriously, sustainable development should lead to urban development patterns that are more environmentally compatible, economically efficient, and socially equitable.

Awareness is growing that sustainable development can be achieved only by striking a mutually beneficial balance between the environment and economic growth. In most cases, limited management capacity and not the lack of technology or capital has been the major constraint to achieving this balance. To improve management capacity requires new, more participatory approaches related to policy formulation and governance. Greater emphasis needs to be placed on leveraging a variety of resources from partnerships, broad-based community participation, and shared collective knowledge and know-how.

Issue 5: Insecure sustainability of socioeconomic improvements

Social sustainability involves the ability of people to take collective actions to achieve fair access to the benefits of human progress. It requires the creation of spatial patterns and living environments in which all individuals and groups are treated fairly and have equal opportunity. Considerable progress has been made in a number of "people level" socioeconomic areas, but such achievements remain relatively fragile and need continued support to prevent their being lost.

With rapid urbanization and urban development in Morocco, greater social equity for both moral and practical reasons is steadily becoming an important development issue. Both public policy and public opinion are increasingly concerned by differences in the quality of life between regions. This is one reason for the renewed interest in regional development.

1.6 Recommendations

A wide range of activities can be undertaken to improve urban development in and around Moroccan cities. One way to begin such an approach is through the application of a broad range of partnership arrangements aimed at alleviating all forms of "poverty" related to the physical, social, financial, and natural resource conditions of Moroccan cities and their related hinterlands.

This partnership approach would help:

- ***establish a regional point of view;***
- ***improve and disseminate the knowledge base for local development;***
- ***leverage and add value to small-scale individual investments;***
- ***create better channels of cooperation; and***
- ***implement pro-active urban regeneration (physical, economic, and social).***

2 Background and Context of the Study

2.1 Background

Morocco has experienced a wide range of very significant changes over the past 20 years that have had an unprecedented impact on its social and physical character. While urbanization and urban development have been at the very core of these changes, they have had varying degrees of impact on the different sectors (e.g., demography, economy, finance, education, health, housing, etc.) and on the spatial distribution of the population (e.g., urban and rural areas in general, large cities, small cities, etc.). There is no doubt, however, that a fundamental transformation from a predominantly rural society to one that is increasingly urban has been taking place. Between the 1982 and 1994 censuses alone, for example, there has been an increase of more than 1 million urban families. These new families have new patterns of consumption, make new and growing demands on agricultural productivity, generate greater natural resource needs and throughputs, and substantially alter the spatial distribution of the population and its impact on the built and natural environments. The redistribution of this population has created additional needs and opportunities for modern, non-agricultural employment and for administrative changes that involve greater local participation and more democratic means of governance.

Demographic Change

Over the past 40 years, Morocco's overall population has increased by more than two-and-a-half times. It has grown from 11.6 million inhabitants in 1960 to an estimated 27.3 million inhabitants in 1997. Massive rural-to-urban migration has placed very unequal demographic burdens on urban and rural areas. The percentage of the population living in urban areas has grown from just 29 percent in 1960 to 53 percent in 1997. This population shift will continue its rapid pace until 2020, when close to two-thirds of the population (roughly 25.4 million out of a projected 37.5 million inhabitants) will be living in urban areas. During this period, the annual growth rate for the urban population is projected to be 2.5 percent, or slightly less than twice the projected rate for the total population (1.4 percent).

Economic Change

Despite considerable efforts to diversify the Moroccan economy, agriculture continues to play a very dominant role. It contributes as much as 29 percent of value added and 30 percent of the country's exports. Agricultural productivity will have to increase even more, however, simply to meet the needs of the expanding urban population. Any substantial increase in agricultural productivity will be difficult to achieve, since the agricultural sector is persistently plagued by droughts. Over the past 88 years, Morocco has experience at least 30 droughts, or an average of more than one drought every three years. Although new agricultural technologies (e.g., drip irrigation, greenhouses, etc.) can help increase productivity and reduce some of the negative effects of these droughts, these new technologies also require a more rational and efficient use of water.

The significant growth in urban population also increases the need to improve economic growth through diversification. The basic economic challenge facing the country is to reduce growing unemployment in urban areas by doubling the annual rate of economic growth (i.e., from the current 3 to 4 percent to 6 to 8 percent). Recent growth rates have not been consistently high enough to produce the necessary economic and social advancements that can effectively combat growing urban unemployment. Periodic improvements in the economy, though obviously beneficial, have not been adequate to create necessary job opportunities for the young population within the labor force.

Unfortunately, there have been very few indications that Morocco can diversify its economy in order to achieve a high enough level of economic growth. Non-agricultural activities, in fact, have been experiencing a gradual, long-term decline. The average growth rates of non-agricultural activities have been 6.1 percent between 1971 and 1978, 3.8 percent between 1979 and 1990. and 2.2 percent between 1991 and 1997. Industrial activity within the country has focused primarily on import substitution, with the majority of manufactured goods oriented toward internal consumption (manufactured goods make up only 25 percent of the country's exports). While the mining sector is the third most important component of the Moroccan economy, it too has experienced very weak growth of only about 2 percent per year over the past five years. The mining sector exports only about 25 percent of its total output.

Administrative and Institutional Framework

Although decentralization has been formal government policy since 1976, the institutional framework remains largely dominated by the central government and the powers of its executive representatives throughout the country (walis, provincial governors, etc.). While there have been significant increases in the number of locally elected municipal councils, the extensions of their powers have almost always been accompanied by parallel increases in the number of appointed provincial governors and their authority. Nevertheless, Morocco has committed itself to a policy of decentralization through a steady stream of Royal confirmations and incremental measures aimed at strengthening municipal and regional authorities. The intent if not always the result of these measures has clearly been one of decentralization and deconcentration of government territorial administration.

At present, there is also general agreement about the need to establish a new framework for regional and local development that will produce more effective results. The reintegration of regional development, town planning, environment, and housing within the same ministry (the Ministry of Regional Development, Environment, Town Planning and Housing [MATEUH]) offers hope that the necessary synergies between urban development, planning, and environment, at least at the technical level, will be achieved. The intentions of the Ministry to work more closely with local authorities to improve urban development is a promising sign that the benefits of these synergies will be applied at the local level.

This Urban Development Assessment (UDA) comes at a very opportune time, given recent government initiatives to reorganize its administrative and development approach at the national, regional, and local levels.

2.2 Purpose of the Study

The purpose of this UDA, as stated in the Terms of Reference (TOR), is to help USAID/Morocco and the Moroccan Government "better understand the impacts of urbanization on decentralization policies, urban management and governance, finance and infrastructure service delivery as they impact the environment sector." The assessment and report are also intended to assist USAID/Morocco in defining its new strategy for Morocco and to provide a potential model for UDA-type assessments for other countries. A methodology and series of UDAs that were formulated in the mid-1980s set the basis for much of this assessment. A proposed methodology was presented to USAID/Morocco prior to the start of work in the field.

2.3 Selection of Regional and Local Areas to be Included in the Assessment

The field work and UDA report have been structured according to three geographic levels for national, regional, and local areas as indicated in the TOR. Selections of the regional and local areas to be included in the assessment were made and/or confirmed by USAID/Morocco.

Selection of the Souss-Massa River Basin as the Regional Study Area

Considerable importance was placed on the selection of an appropriate river basin area as the regional component of this UDA. The area of the Souss-Massa River Basin was selected. This river basin has a number of characteristics that make it a very good choice and a potential area of focus for future USAID involvement. The river basin area is:

- ***geographically well defined and reasonably sized to be considered as a manageable entity in light of the government's renewed emphasis on regional development;***
- ***confronted by a wide range of issues related to the use and management of natural resources, mainly water, underscored by a receding water table and rising level of urbanization along the environmentally sensitive Souss River;***
- ***experiencing a higher annual rate of urban population growth (projected to be 4.3 percent for the 1994 to 2010 period) than the country as a whole (projected to be 2.7 percent);***
- ***characterized by rapidly growing urban centers of varying sizes, including Greater Agadir, satellite cities, and small settlements along the major roads and rivers;***
- ***endowed with the natural environment and resources for important economic activities related to tourism, agriculture, agro-industry, construction, etc., with the Agadir area considered to be the country's second most important center of economic activity; and***
- ***provided with a full range of administrative and technical institutions for urban development and management.***

While several of the above-mentioned attributes can be found in other areas of the country, they are particularly evident in the area of the Souss-Massa River Basin. The relationships among town planing, urban development, the environment, and the effective management of available natural resources are all extremely important to the sustainable development and economic future of the region.

The choice of the Souss-Massa River Basin is also very appropriate from an urban development and housing point of view. Two main problems characterize the current development of Moroccan cities that can also be found in this region. The first involves uncontrolled growth on the periphery of urban areas that largely results from the lack of effective planning documents and/or coherent urban management. In the Souss-Massa River Basin, this type of urbanization involves the very rapid growth of satellite settlements around Agadir as well as small, underserviced douars dispersed along the Souss River and national highways leading to Taroudannt and Tiznit. The second involves the increasing number of substandard housing units being built in these rapidly growing areas. Both a large number of bidonvilles (around Agadir) and substandard housing units of more solid construction can be found throughout the region. Agadir, in fact, has the third highest number of bidonvilles among all Moroccan cities.

Selection of Aït Melloul and Temsia

Two urban centers were selected within the Souss-Massa River Basin as representative examples of urban development in the region. Aït Melloul was selected as a larger urban settlement confronted with large-scale, uncontrolled, low-income housing development around its periphery. Temsia was selected as a small, originally rural settlement that has become officially and increasingly urban due to its position on a major highway. Both of these settlements are indicative of urbanization and urban development patterns found in other areas of Morocco as well.

2.4 Methodology and Approach

A proposed methodology and approach for implementing this UDA was presented to USAID prior to the start of work in the field. However, several major modifications had to be made to this proposed approach due to a number of unforeseen circumstances that included: a shorter period of time in Morocco than originally programmed, the late arrival of one team member due to the unexpected illness of the original candidate, unforeseen Moroccan holidays in the middle of the field work, and the availability of a much greater amount of in-country data and documentation at the national level than originally anticipated. All of these conditions had an important impact on the scheduling of tasks and the number of interviews that were conducted with Moroccan officials. The greater availability of data also reduced the need for much of the proposed computer modelling, given that a wide range of data and projections were available from the Department of Statistics and other related sources.

Despite major changes in the approach, every effort was made to respond to the requirements of the TOR. Some data indicated in the TOR, however, could not be obtained through secondary sources nor within the framework and time period of the study.

Secondary sources provided the vast majority of data and information employed for all three levels of the UDA (national, river basin, and municipality). Considerably less data were found concerning the regional and local levels. Data analysis and presentation for each of the three geographic levels were organized in a similar manner in order to provide a consistent framework on which to base comparisons and to build the UDA. Urban issues identified from the national level also served to enlighten issues to be analyzed at the regional and local levels and their various upward and downward linkages. Having such a three-level assessment helps put Morocco's urbanization and urban development situation into a broad perspective and allows for a range of comparisons to be made between different areas.

Data collection not only focused on providing a compendium of information about urbanization in Morocco and its impact on the social, economic, and physical environment, but also on developing local support for a broader view and understanding of the urbanization process itself and its impact on future development and sustainability. Data in the UDA have been presented to provide meaningful insights into key sectoral issues and USAID's cross-cutting themes. All of the cross-cutting themes were also found to be key issues with Moroccan government officials. In addition, interviews at the national and local levels showed considerable knowledge and interest about sustainable urban development. Many of the Moroccan government officials concerned with urban development had participated in the Earth Summit and Habitat II conferences. Both of these conferences have had significant impacts on current points of view.

As expected, commune- or municipal-level data from the national census provided the smallest data unit for the study. Computer spreadsheets and desktop mapping programs have been used to help organize and analyze the data and to present the results in a manner that can be easily visualized and understood. Basic population and household data from the 1982 and 1994 national censuses were entered into a specially designed computer mapping program (Coreme- Communes et Regions du Maroc sous Excel) that makes use of Microsoft Excel spreadsheets. The study team worked very closely with the producers of this software program to include the river-basin-level as one of the data aggregation levels in the program. Using this computer mapping program, household and housing unit data for the more than 1,500 communes were also related to the 65 provinces and prefectures, the 16 newly formed administrative/economic regions, and the 17 major river basin areas. Demographic data at the river basin level has provided the basis for many of the analyses and projections.

Prioritization of Subjects and Issues

The TOR included a very extensive and thorough list of issues and data to be addressed by the study. Unlike previous UDAs that focused primarily on macro-economic conditions and urban characteristics, this UDA has placed greater emphasis on the social, environmental, and natural resource aspects of urbanization in Morocco. A considerable and varied amount of information has been acquired in attempting to understand the basic synergies of the current situation, with a special emphasis on the Souss-Massa River Basin. An important part of the assessment has focused on conditions for sustainable development based on sound relationships among urban, agricultural, and natural eco-systems. Urbanization and urban development trends have been viewed not only as part of a major demographic and economic transformation in Morocco, but also as part of an important environmental one as well. Cross-cutting issues related to decentralization, governance, and partnerships have important impacts on all of these concerns.

Meetings with Decision Makers

To the extent possible, meetings were held with both bilateral and multilateral agencies during the course of the field work. In addition to USAID, these agencies included French bilateral aid and the World Bank. The purpose of these meetings was to establish an up-to-date overview of urban activities in Morocco by certain donor agencies and to obtain relevant data and reports.

Meetings at the national level included those with the Town Planning Department, MATEUH, the Department of the Environment, the National Water Authority (ONEP), the Department of Statistics (DOS), the National Upgrading Agency (ANHI), and the Community Development Fund (FEC).

The team was very well assisted in Agadir by ANHI's Regional Director, who was instrumental in setting up meetings and interviews with the Wilayat, the Prefecture of Inezgane-Aït Melloul, the Province of Chtouka Aït Baha, the municipalities of Temsia and Aït Melloul, the Urban Agency, RAMSA, the Department of Hydrology, the Department of Planning, FEC, ONEP, and the Urban Community of Agadir.

Data Needs and Collection

Basic data needs for the UDA have focused on the five main subject areas identified in the TOR. These areas include demographics; economic structure and growth; investment flows and financing systems; administrative, management, and planning systems; and urban land, infrastructure, and shelter. Table 2.1 lists some of the key data requirements, potential secondary sources, informant interviews, and computer-based analyses that were planned as part of the initial approach to the project. As previously mentioned, not all of these activities were carried out. A substantial amount of information has been written recently about cross-cutting issues and their influence on future urbanization. These cross-cutting issues also included those identified by USAID: decentralization, public-private partnerships, public participation, water use, and environmental health.

Table 2.1
Key Data and Sources of Information for Sectoral Areas

Sectoral Areas and Aggregation of Data	Key Data Required	Secondary Data Sources	Potential Key Informant Interview	Computer-Based Analysis
Demographics by River Basin, Settlement Type within the Basin, and Housing Type within the Municipality	• Population Size and Distribution • Household Size • Growth Rates • Age Structure • Health Conditions • Migration	• National Census (Commune Level Data) (1994) • CERED Publications • UNDP Reports • World Bank Reports • Statistics Web Site for Morocco	• Department of Statistics • CERED • Department of Local Collectivities • Provincial Offices • Municipal Offices • University of Rabat	• Analysis of Previous Growth • Distribution Analysis • Population Projections • Trends Analysis • Indicators • Results Mapping
Economic Structure and Growth	• Income Levels and Distribution • Structure of Production, Employment, Output, and Infrastructure • Economic Base • Resource Linkages • Zones of Economic Influence	• Macro-Economic Indicators • National Income Accounts • National Development Plans • Annual Statistical Bulletins • Regional Economic Reports • Municipal Economic Reports	• Ministry of Planning • World Bank/Morocco • Ministry of Finance • Regional Offices of Ministries • Chamber of Commerce	• Analysis of Previous Growth • Economic Projections and Trends • Comparison of income, structure of production and employment, output and infrastructure between areas • Shift-share analysis
Urban Land, Infrastructure, and Shelter	• Physical Conditions of Urban Areas • Adequacy of Land and Infrastructure • Shelter Conditions • Land Management Policies, Mechanisms, Standards, and Regulations • Public-Private Sector Roles	• National Census • USAID Reports • Ministry of Housing Reports • ANHI Reports • University Reports • Habitat II Report	• Department of Regional Development • Department of Urbanism (MATEUH) • Department of Local Communities • Community Development Fund • ANHI • Department of Statistics	• Shelter Needs Assessment • Infrastructure and Urban Services Inventory and Assessment • Indicators • Land Use and Urbanization Analysis • Results Mapping
Administrative, Management, and Planning Systems	• Policy, Planning, and Management Frameworks • Institutional Structures, Powers, and Capacities • Management Systems • Linkages between Institutions	• USAID and World Bank Reports • Government Periodicals • Published Institutional Statutes • Legislation and Regulations • Planning Documents and Tools • University Publications	• Department of Local Communities • Ministry of Public Administration • Department of Urbanism • Regional Administration • Municipality and Utility Companies • NGOs and CBOs	• Flow Charts of Institutional Linkages • Management Capability Assessments
Investment Flows and Financing Systems	• Public-Private Investment Resources • Rate of Growth of Investments • Key Sources of Investment • Possibilities of Resource Mobilization • Geographical Flow of Resources • Municipal Financing Systems • Municipal Pricing and Cost Recovery	• World Bank Reports • National Accounts • National Development Plans • Annual Statistical Bulletins • Ministry of Finance Reports • Regional and Municipal Reports	• World Bank/Morocco • Ministry of Finance • Ministry of Planning • Department of Local Communities • Community Development Fund • Municipal Finance Office	• Analysis of Previous Investments • Investment Projections and Trends • Linkages and Flows of Resources • Identification of Underinvested Areas • Mapping of Results

Secondary sources, key informant interviews, and site visits in the Souss-Massa River Basin area were the main sources of data used in the regional component of this assessment. Much more written data was available on general urban development in Morocco than originally anticipated. A diskette of household data from the 1994 census was obtained, which facilitated much of the analysis. The Moroccan government also has a number of Internet Web sites that provided a small amount of useful data to the study. Some information was also obtained from maps and actual field visits to important areas. Interviews with Moroccan government officials provided very valuable insights into current government thinking about the ongoing urbanization process and the required institutional changes to respond.

2.5 Structure and Organization of the Field Work and Report

Due to a limited amount of time available in Morocco, the part of the original work plan related to field work had to be significantly compressed. The loss of three days to Moroccan holidays also reduced the amount of time for meetings to be held with Moroccan officials, particularly at the national level.

Four main activity streams, corresponding to (1) demographics and urban development, (2) natural conditions and environment, (3) economic and financial conditions, and (4) institutional and legal framework for urban development were used to guide the implementation of the study and to make best use of the study team's professional capabilities. Each stream was placed under the direct responsibility of one of the team members.

Organization of the Report

The remainder of this report includes five chapters. Chapters 3, 4, and 5, respectively, relate to the national, regional, and local levels of the study. Each of these levels has been investigated in terms of the five major sectors indicated in the TOR (demography and urbanization; economic development; investments and financing; legal and institutional framework; and urban structure, infrastructure, and housing) and in terms of the environment. Chapter 6 addresses cross-cutting issues related to decentralization, community participation/governance, partnerships, and environmental health. Chapter 7 presents the major findings, issues, and conclusions of the study.

3 Urban Development from a National Perspective

3.1 Demographic Profile

While demographic indicators and their evolution in Morocco remain very similar to those of most other developing countries, they continue to provide signs of rapid demographic growth, even in light of the very important progress that has been made over the past 20 years in the areas of health and public hygiene.

This chapter discusses the various demographic changes in Morocco, retraces ongoing tendencies, and brings to light recent characteristics and trends of the Moroccan population as well as certain interactions and interrelationships between demography and the dual considerations of urbanization and environment.

The general census of the population and housing (RGHP) from 1982 and 1994, certain sectoral studies from the Center for Demographic Studies and Research (CERED) in the Ministry of Planning, and the most recent national health survey on mothers and children (PAPCHILD-1997) provide the principal sources of information for this part of the study.

3.1.1 Demographic Growth and Indicators

Evolution of the Population

Based on data from the last four censuses (1960, 1971, 1982, and 1994), the population of Morocco grew by more than 120 percent over a period of 34 years. It expanded from 11.6 million people in 1960 to 20.4 million in 1982 to 26.0 million in 1994. The average annual growth rate over this 34 year period was 2.5 percent. The growth rate declined steadily, from 2.8 percent between 1960 and 1971 to 2.6 percent between 1971 and 1982 to around 2.1 percent between 1982 and 1994. According to CERED, the population growth rate was expected to decline even further to 1.6 percent during the 1994-1997 period.

Table 3.1
Changes in Morocco's Total Population between 1960 and 1997
(000s)

Period	Total Population**	Growth		Rate of Growth (in %)	
		Overall	Average/yr	Overall	Annual Average
1960	11,626				
1960-1971	15,379	3,753	341	32.3%	2.58%
1971-1982	20,420	5,041	458	32.8%	2.61%
1982-1994	26,074	5,654	471	27.7%	2.06%
1994-1997	27,310	1,236	412	4.7%	1.56%
1960-1997*		15,684	424	134.9%	2.33%

(*) CERED estimation *(**) Number at end of period*

This series of growth rates explains to a considerable extent both the important migratory activity that occurred in the country since independence and the rather favorable changes in indicators related to natural population growth and, most importantly, to the decline in birth and mortality rates. These declines, though significant, were not sufficient to alter the observed acceleration in population increase. While gross birth rates dropped from 5.2 percent per year in 1960 to 2.6 percent in 1997, the

effect of this appreciable decline on population growth was counterbalanced by the equally important drop in the overall mortality rate (from 2.0 percent in 1960 to 0.6 percent today), due mainly to the rapid decline in infant and child mortality.

The conditions and contexts of these demographic developments have had a direct impact on people's living conditions as well as on cities, the countryside, and the environment in general.

Unequal Distribution of the Population Growth between Cities and Rural Areas

Demographic pressure is distributed very unequally between urban and rural areas due to different socioeconomic factors and accumulated effects, but most of all as a result of rural-urban migration.

The rural population grew from 8.2 million people in 1960 to roughly 12.7 million people in 1994, a growth of 53 percent over 34 years. The annual rate of growth changed from an average of 1.7 percent during the period between 1960 and 1971 to an average of 0.7 percent between 1982 and 1994. According to CERED, this rate declined to only 0.4 percent between 1994 and 1997. The moderate increase in rural population was due to a certain decline in natural growth, especially since 1982. The mortality rate also changed, from 2.1 percent in 1960 to 0.8 percent in 1997. Parallel to these changes, the birth rate, which changed only slightly, from 4.6 percent to 4.1 percent between 1960 and 1982, dropped to only 2.7 percent in 1997. The Composite Fertility Index, which had remained relatively constant at 7.0 between 1960 and 1982, has now declined to only 3.9.

Moreover, the slowing down of demographic pressure in rural areas has occurred through two different phases. The first lasted between 1960 and 1980, during which the rate of natural population growth remained relatively high but was accompanied by extensive rural-urban and overseas migration. The second began in 1982, in which demographic indicators experienced a notable decline, although out-migration to urban areas continued.

This situation explains to a great extent, the staggering increase in the urban population. The urban population virtually tripled from 3.4 million people in 1960 to roughly 13.4 million people in 1994. The annual growth rate during this period was 3.3 times higher than the growth rate for rural areas over the same period of time, that is, 4.0 percent compared to 1.2 percent.

Table 3.2
Changes in the Urban Population between 1960 and 1997
(000s)

Period	Urban Population**	Growth		Rate of Growth (in %)	
		Overall	Average/yr	Overall	Annual Average
1960	3,390				
1960-1971	5,402	2,012	183	59.4%	4.33%
1971-1982	8,730	3,328	303	61.6%	4.46%
1982-1994	13,408	4,678	390	53.6%	3.64%
1994-1997	14,524	1,116	372	8.3%	2.70%
1960-1997*		11,134	301	328.5%	4.01%

(*) CERED estimation (**) Number at end of period

The rapid increase in urban population is due not only to natural growth and rural urban migration but also to the changeover in status of certain localities from rural to urban and to the extension of existing city boundaries. Simple administrative changes have accounted for an estimated 15 percent of the growth in urban population.

Concerning natural population growth, the birth rate in Moroccan cities has been declining since the beginning of the 1960s, going from 4.7 percent in 1960 to roughly 2.1 percent in 1997. The Composite Fertility Index (ISF) very dramatically dropped from 7.8 to 2.4 during the same period. Finally, the gross mortality rate dropped from close to 18 percent in 1960 to roughly 7 percent in 1982 and then to 5 percent in 1997. Consequently, only about 36 percent of the urban population growth between 1960 and 1997 can be attributed to natural population growth. The rest has been due to migration and other causes.

Morocco's urban population increased by more than 11 million people between 1960 and 1997, with more than half of that number produced during the last 15 years. It means that the urban population grew by an average of 370,000 people each year, roughly the equivalent of a large sized city, such as Oujda or Meknes (1997). Table 3.3 shows the changes in some key indicators related to urbanization; the steady increase in the level of urbanization between 1971 and 1994 should be noted.

Figure 3.1
Changes in the Population of Morocco
(millions)

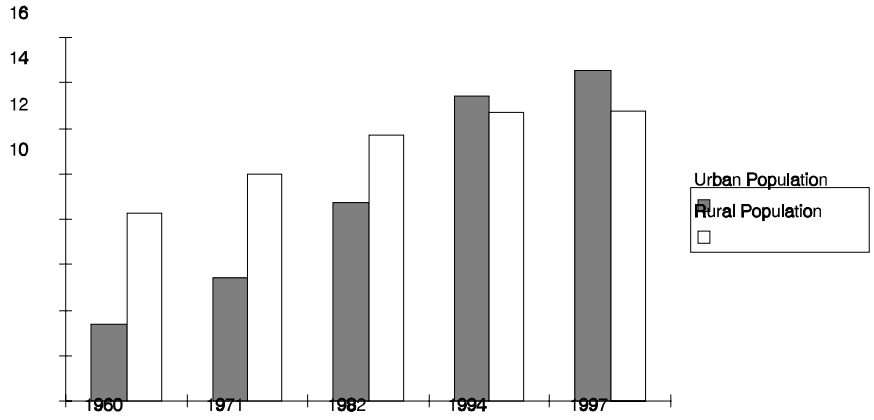


Table 3.3
Changes in Urbanization Indicators

Indicator	*1960*	*1971*	*1982*	*1994*	*1997*	*1960-1997*
Urban Percentage of Total Population	*29.2%*	*35.1%*	*42.8%*	*51.4%*	*53.2%*	*-*
Urban Pop./Rural Pop.	*0.41*	*0.54*	*0.75*	*1.06*	*1.14*	*-*

Rate of Growth Urban Pop./Rural	-	*2.5%*	*3.0%*	*2.9%*	*2.4%*	*2.8%*

Key Demographic Indicators

Birth Rates: The overall birth rate or number of births per 100 people continues to be high in Morocco, despite the previously cited decline from 5.2 percent in 1960 to the recent 2.6 percent. This recent rate combines results of 2.7 percent in rural areas and 2.1 percent in urban ones.

Fertility: Fertility rates have followed the same general trend and remain relatively high, despite success in extending family planning practices and an increased awareness in women's health (notably in urban areas). The average number of children per woman during the normal period of procreation (15 to 49 years of age), or Composite Fertility Index (ISF), went from 7.2 in 1962 to 5.5 in 1982 to 3.0 in 1997. This index was higher in rural areas (3.9) than in urban ones (2.4). The results of the most recent survey by the Ministry of Health (PAPCHILD, 1997) essentially confirm these results.

Factors that have had an impact on the relative decrease in the level of fertility in Morocco include delays in the average marrying age (20 years of age in 1971 compared to 26 in 1994), which have mainly been due to the longer period of education and to the "negative effects of development, such as the increase in unemployment and lack of affordable housing." (CERED)

Demographic policies related to family planning and the use of contraception have also contributed. In 1980, close to 20 percent of women aged 15 to 49 used a means of contraception. By 1997, this percentage had increased to 60 percent (PAPCHILD).

Additionally, the positive evolution in the status of women achieved by increasing their participation in economic and social development, with further increases to be encouraged, has been a determining factor in the decline in fertility.

Mortality Rate: The gross mortality rate declined from 1.9 percent in 1962 to 0.6 percent in 1997. The rate was higher in rural areas (0.8 percent) than in urban ones (0.5 percent). Within this framework, the average lifespan from birth grew from 47 years in 1962 to approximately 69 years today. Nevertheless, infant mortality (babies less than a year old), which is an effective indicator of medical and sanitary conditions, remains high, particularly in rural areas. This rate has gone from 14.9 percent in 1962 to 6.6 percent in 1995, reaching just 3.7 percent in 1997 according to PAPCHILD.

The mortality of young children between the ages of one and five has also experienced a considerable decline, reaching 1.0 percent in 1997 compared to 7.5 percent in 1962 and 3.0 percent in 1987.

Internal Migration and Its Impacts

As previously mentioned, the soaring rate of urbanization of Morocco has been closely tied to the ever-widening phenomenon of rural-urban migration.

In-country migration, parallel to the flow of international migration that occurred very actively during the 1970s and 1980s, has been a determining factor in the difference in demographic growth between rural and urban areas in Morocco. It has also been at the core of major problems related to the deterioration of the environment and living conditions within cities.

The phenomenon of in-country migration has frequently been studied in Morocco in light of its determining role on regional and urban development policies. These migration studies have also provided a better understanding of the urbanization process and insights into lessening its negative impacts, both for urban areas at the receiving end of this migration (as witnessed by the uncontrolled occupation of urban peripheries; development of substandard housing, such as bidonvilles and clandestine housing; densification of historic city centers; etc.) and for rural areas at its beginning.

The annual flow of migrants to urban areas involved close to 113,000 people per year during the 1970s and averaged 193,000 between 1982 and 1994. This rural-urban migration has had a tendency to accelerate during periods of drought.

The dynamics of population migration provoke very profound changes in the destination and characteristics of the areas that receive this flow. In this way, migration, while maintaining its intensity, has become more diffused. If the Casablanca-Rabat-Khenitra axis was the principal catchment area for rural-urban migration during the 1960s, the current situation has evolved and, according to CERED, has experienced a clear reorientation in the flow of migrants toward small and medium-size cities. Large settlements now receive only about 45 percent of the flow of migrants that arrived earlier during the 1970s-1980s.

The growing number of women migrants has also become a fact. It appears that women participate in the migration movement for several reasons: either as a result of their own initiatives in attempting to obtain better living conditions, as an accompanying wife or family member, or as a domestic servant to established urban households.

Other data on in-country migration can be obtained from an important study conducted in 1991 by the Department of Regional Development in collaboration with FNUAP (Internal Migration and Regional Development Project). This study, which distinguishes between migrants coming from zones around the urban periphery (ZPU) and those coming from the remaining rural areas, has revealed the following.

- ***Migration movements basically affect the working age population. Approximately 70 percent of the migrants coming from areas around urban peripheries were less than 40 years old. This percentage was 90 percent for those coming from the remaining rural areas.***
- ***Paradoxically, unemployment is much less common among migrants. The occupational structure of the migrant community shows a higher concentration of men engaged as full-time employees in services, trade, and construction, as well as women involved in crafts, industry, and trade. Living conditions as identified by quality of life indicators included in study point to a considerable degree of precariousness in the housing of the surveyed households.***
- ***More than two-thirds of migrant households were motivated to make their move by economic considerations linked either to the search for employment or attempts to improve their living conditions. Family finances play a very important role in the decision to migrate.***
- ***Even though many migrants from peripheral areas are attracted to nearby cities, regardless of their size, migrants from rural areas further away continue to be attracted to large-size cities.***

The study of the impacts of migration on household attitudes and behavior has revealed important changes in the mentality of the surveyed population.

- ***Concerning improvements in the standard of living, surveyed migrant households consider that their material situation has indeed improved after migration.***

- ***Household heads, whether they be urban or rural, migrants or not, are largely favorable to the use of contraceptive methods.***
- ***Household heads further consider that training is the best advantage to have in ensuring the future of their children.***
- ***It is equally important to underline the positive evolution in the attitudes of women migrants toward many socio-demographic and economic concerns.***

Basic conclusions to be kept in mind concerning migration include the fact that rural-urban migration, even in light of greater migration between cities, continues to be an important component of internal mobility within Morocco. Negative impacts of this migration on urban development and the environment remain numerous and varied. They include, among others, the ruralization of urban peripheries, the formation and growth of bidonvilles and substandard and unauthorized neighborhoods, and the densification and degradation of historic areas.

3.1.2 Socioeconomic Characteristics

Demographic Structures and Indicators

The main demographic structures include the structure of the population by gender and sex, the matrimonial status, household composition, and level of education of the population.

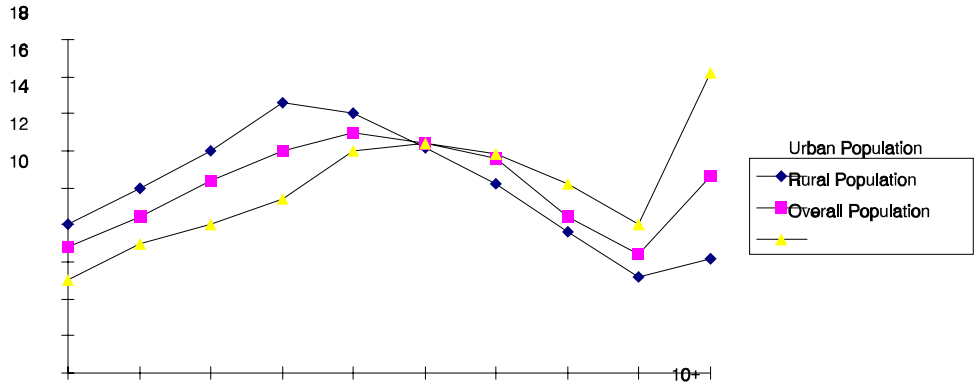
- ***Structure by age and gender: Knowing the structure of a population by age and gender is extremely important in conducting further population studies and in determining its different needs (food, education, employment, health, housing, etc.).***

  The population of Morocco in 1994, like that in many other developing countries, is composed of an almost equal number of men and women (49.7 percent male, 50.3 percent female) and is particularly young (with some 37 percent less than 15 years old; 48 percent less than 20 years old, and 65 percent less than 30 years). The youthfulness of the population is even greater in rural areas, where more than half the population is less than 20 years old.

  Thus, despite the relative slowdown in population growth, the youth of the Moroccan population continues to be an important factor. The tension this situation puts on the country's economic resources and the choices it imposes on future efforts to satisfy needs for education, employment, health, housing, etc. may be more of a problem than currently perceived, due to the prodigious size of the current sectorial deficits and the added pressure created by the reproductive potential of the young population.
- ***Matrimonial status: Approximately 38 percent of the population over 15 years of age declared themselves to be single (45 percent of the men and 32 percent of the women). This was a significant increase compared to 1982, when the proportion in this category was only 33 percent (41 percent for men and 26 percent for women). Married persons represented 54 percent of the population over 15 years of age. Delayed marriages have become a phenomenon as much in urban areas as in rural ones and will help lower the fertility rate even further.***
- ***Household Composition: The 1994 census registered close to 4.4 million households, which was 1 million households more than the census of 1982 (3.4 million households). Roughly 57 percent of all households lived in urban areas with 43 percent in rural ones. This compares to a split in 1982 of 46 percent urban and 54 percent rural, which further explains changes in the sizes of households. Between the two censuses, the average household size in urban areas decreased slightly from 5.5 to 5.2, while that in rural areas increased from 6.3 to 6.6. The average household size nationwide was 5.9 in 1994. The relative decline in urban household size has an important impact***

on the resources to be developed in order to respond to the changes in the urban population, particularly in terms of the type of housing to be provided and the distribution of community facilities. It will also have an important impact on household consumption patterns.

Figure 3.2
Household Composition
(%)

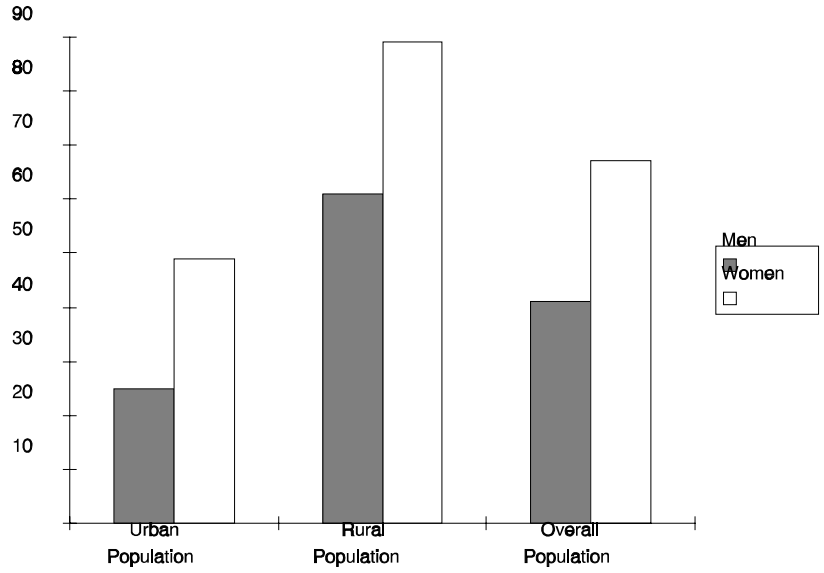


- *Level of education: The illiteracy rate in 1994 was 55 percent, or close to 10 million people 10 years old or over. Nevertheless, a continuous and regular decline has been observed since 1960, when close to 9 out of 10 people were considered to be illiterate. The degree of illiteracy is a particular concern for women, who have a rate 67 percent overall and 89 percent in rural areas.*

  Furthermore, it should be noted that on a national level the percentage of children between the ages of 7 to 12 years attending school has grown from 59 percent to 70 percent during the 1992 to 1996 period. In rural areas, this rate has grown from 49 percent to 55 percent. The gender breakdown has also changed. It has grown from 56 percent to 69 percent for boys and from 24 percent to 42 percent for girls. Only one in two girls more than 7 years old, however, now attends school in rural areas, which shows the accumulated results of poor service provision in rural areas and the effects this has had and continues to have on the human development.

  If on the eve of the year 2000, education for all appears to be an objective that remains far from being achieved, there has been appreciable improvement. The anxiety about this situation comes from the large proportion of the population that remains illiterate. The path to be taken to create the necessary conditions for real improvement in socioeconomic conditions still appears to be fairly long.

Figure 3.3
Illiteracy Rates by Gender and Density
(%)



Labor Force and Unemployment

The labor force was estimated to be 32 percent of the total population in 1994. It is predominantly a male-oriented work force. Only 20 percent of women work. The non-labor force population is roughly 68 percent of the total.

According to the Department of Statistics, unemployment has undergone an important transition since the 1980s. In effect, it has become more of an urban phenomenon and one that has a strong impact on young people, particularly on young females. It also increasingly affects recent graduates from all levels of formal education.

Approximately 16 percent of the active population was unemployed at the time of the national census. Of those unemployed, roughly 71 percent involved a relatively young population looking for their first job. In addition, 30 percent of unemployed were women of which 80 percent were seeking their first job. If the phenomenon of unemployment is a demonstrated reality in rural areas (with more than 400,000 persons counted), it is in urban areas where the majority of unemployed persons are now found (close to 70 percent of the total).

The increasingly large number of young people entering the labor force coupled with diminishing opportunities for formal employment will no doubt lead to further increases in the unemployment rate over the coming years.

Table 3.4
Education Level of Unemployed Workers

	Urban	*Rural*
Without diploma	*17.0%*	*73.8%*
Middle Level Schooling	*45.0%*	*21.6%*
Higher Level Schooling	*38.0%*	*4.6%*
Total	*100.0%*	*100.0%*

As for the socio-professional structure of the work force, it should be noted that the percentages for independent employment and for family-related jobs have declined in favor of salaried work, which occupied 40 percent of the work force in 1971 and more than 50 percent in 1994.

Employment and Income

In terms of the distribution of the work force based on different sectors of economic activity, the 1994 census shows that agriculture and fishing remain the top two providers of employment at the national level with 40 percent of the work force. The proportion of workers in these two categories in urban areas in 1994 was close to 5 percent.

These two employment categories are followed in importance by industry and handicrafts, which occupy close to 15 percent of the work force. They employ 25 percent of the work force in urban areas and a larger number of women than men.

Commercial activities involve 14 percent of the total work force and 22 percent in urban areas. The majority of workers in this category are men.

Public administration (including health and the national education services) employs about 13 percent of the work force, with a higher percentage of almost 22 percent in urban areas. Public administration also employs a large number of women.

Table 3.5, below, presents details on the distribution of the labor force according to different branches of economic activity.

Incomes related to these employment and economic activities are considerably more difficult to determine than the number of workers. The corresponding reference data comes from a national survey on the standard of living that was undertaken by the Department of Statistics in 1991. A new survey, conducted in 1997, is now being analyzed. Similarly, some of the updated data have been taken from a study on housing finance conducted by the Department of the Housing. According to this study, it is estimated that the median annual household income in 1995 was around 42,000 DH, or about 3,500 DH per month. Today, this median income would be between 3,800 DH and 3,950 DH per month.

Table 3.5
Distribution of the Working Labor Force by Economic Activity and Area in 1994
(%)

Economic Activity	Urban Areas			Rural Areas			Total Work Force		
	Mas.	Fem.	Total	Mas.	Fem.	Total	Mas.	Fem.	Total
Agriculture, herding, forestry, and fishing	6.1	2.2	5.2	76.1	83.6	77.2	41.4	34.2	40.0
Mining	1.4	0.3	1.1	0.4	0.0	0.4	0.9	0.2	0.8
Industry and handicrafts	20.2	37.2	24.2	3.4	11.1	4.6	11.8	27.0	14.6
Water, electricity and energy	1.3	0.4	1.1	0.1	0.0	0.1	0.7	0.3	0.6
Building and public works	11.0	0.8	8.7	6.8	0.7	5.7	8.8	0.7	7.3
Commerce	26.4	7.4	22.1	6.5	0.9	5.6	16.3	4.9	14.1
Transport and communication	5.4	1.2	4.5	1.6	0.2	1.4	3.6	0.8	3.0
Services	7.7	23.9	11.3	1.4	2.0	1.5	4.5	15.2	6.6
Public Administration	20.3	26.4	21.6	3.6	1.5	3.4	11.9	16.6	12.9
Activities exercised outside of Morocco	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1994 Census

In attempting to get a better idea of household incomes by investigating their expenses, it is generally the case that household expenses are greater than the salary of the head of household. A household can include one or more workers and can have other sources of income in addition to salaries. A comparison made in the previously mentioned study by the Ministry of Housing between average household expenses in urban areas and average official salaries for government employees enables the verification of this hypothesis.

Table 3.6
Annual Household Expenditures and Bureaucrat Salaries

Decile	Urban Households	Bureaucrat Salaries
10%	9,055	18,506
20%	17,171	22,497
30%	22,934	26,807
40%	28,297	29,253
50%	35,343	31,195
60%	43,296	33,116
70%	50,750	34,475
80%	60,662	43,076
90%	77,708	63,948
100%	138,501	130,200

Source: Ministry of Housing Study (op. cit.)

The same study showed that household economic levels can be indirectly determined by means of the sectors in which working persons are employed. There are two intermediate categories: in addition to the formal sector (public and private), where salaries are relatively high, and the informal sector, where salaries are low and irregular (apprentices, household domestics, family assistance, etc.). The first intermediate category includes non-organized enterprises with a fixed location, weak income, and no regular accounting system (small merchants, artisans, services, etc.), while the second involves other informal, unorganized, and mobile enterprises. This second group brings together, for example, construction activities, small-scale transportation, itinerant merchants, etc.

The following table presents an evaluation of salaried incomes in these sectors.

Table 3.7
Number of Urban Jobs and Level of Salary by Sector

	Jobs		Average salary compared to SMIG
	Number	%	
Organized sector, fixed location			
Private Sector	*1,285,700*	*36%*	*1.8*
Public Sector	*781,000*	*22%*	*1.9*
Non-organized sector, fixed location	*755,000*	*21%*	*0.8*
Non-organized sector, no fixed location	*392,600*	*11%*	*0.8*
Informal sector	*401,100*	*11%*	*0.5*
Total	*3,615,400*	*100%*	

Source: Ministry of Housing Study (op. cit.) beginning with different sources of base data (Department of Statistics, World Bank,...)

The Ministry of Housing study considers that close to 57 percent of workers have salaries greater than the minimum wage (SMIG), estimated to be 1,660 DH per month in 1996. Another 32 percent of workers have an average salary close to the SMIG, while 11 percent have an average salary that is less than half of the SMIG.

These different elements illustrate the basic income levels of the Moroccan population, most notably in urban areas. One can deduce from this analysis the incapacity of a large proportion of Moroccan households to become owners of decent, legal housing and the reasons why there continues to be a persistent growth of different forms of substandard housing in urban areas (shantytowns, clandestine housing, varying degrees of dilapidated historic housing, etc.).

Poverty in Morocco

The notion of poverty has recently become a major preoccupation of Moroccan authorities. To a great extent, this concern grows out of an awareness of the anticipated impacts of Structural Adjustment Programs on specific categories of the Moroccan population. Beginning in the 1990s, many studies and efforts were undertaken by the Moroccan government, in collaboration with the UNDP, the World Bank, and other international organizations, to more fully understand the phenomenon of poverty and/or Moroccan population labeled "disadvantaged." The basic objective of these studies was to set the stage for actions against the ill effects of poverty on all levels of the social and economic life.

This situation poses the central problem found in the definition, overall evaluation, and spatialization of poverty. A general agreement seems to have evolved from the different partners. Roughly speaking, poverty in Morocco is expressed in terms of a "poverty threshold" based on the standard of living and the degree of access to social services (CERED).

Thus, in 1991, the incidence of poverty was estimated to be 13.1 percent of the population, in which roughly half were living in what could be considered an extreme state of poverty. This proportion has declined by roughly 40 percent since 1985. The phenomenon of poverty is more pronounced in the rural areas than in urban ones (with respective totals of the concerned populations at 18.0 percent and 7.6 percent). Similar differences exist between small and medium-size cities (roughly 11.3 percent of the concerned populations) and large-size cities (4.8 percent).

Therefore, it can be said that, as social and economic potential develop, the extent of poverty effectively narrows. This also confirms the growing opinion that access to social services and urban infrastructure are the determining factors in the struggle against poverty.

Although poverty is distributed throughout all economic regions of the country, it is of greater concern in rural areas and in the small and medium-size cities of the South (including the Souss-Massa River Basin, which is a major concern of this study), the north-central regions (around Fez), and the south central region (around Meknes). The following table presents the poverty rates by economic region and for urban and rural areas.

Table 3.8
Poverty Rates by Economic Region and Residence
(%)

	Urban Areas				
Economic Region	*Large Cities*	*Other Cities*	*All Urban*	*Rural Areas*	*Regional Total*
South (Agadir)	*1.29%*	*5.41%*	*4.50%*	*24.83%*	*18.63%*
Tensift (Marrakech)	*8.95%*	*11.73%*	*9.48%*	*19.60%*	*16.31%*
Center (Casablanca)	*5.70%*	*12.03%*	*8.42%*	*9.57%*	*8.88%*
North-west (Rabat)	*0.82%*	*17.13%*	*5.40%*	*11.96%*	*8.35%*
Center-north (Fez)	*13.86%*	*2.19%*	*7.83%*	*22.79%*	*17.64%*
East (Oujda)	*2.95%*	*14.57%*	*10.07%*	*22.68%*	*16.50%*
Center-south (Meknes)	*2.47%*	*13.20%*	*8.52%*	*24.77%*	*17.34%*
Total	*4.78%*	*11.32%*	*7.57%*	*17.99%*	*13.11%*

Source: "Vulnérable Population," CERED, 1997

Like many of the other data on poverty in Morocco, the following table is derived from the National Report on Human Development produced by UNDP-Morocco in 1997. The table compares a profile of living standards for the 13.1 percent of the population considered to be disadvantaged and poor with those of the 12.3 percent considered to be the most well off. Very clear differences exist between these two socioeconomic extremes, including household size, average number of children (more dependents for poorer families), age structure (younger population for poorer families), and access to potable water and acceptable sewage systems (much higher for more well-to-do families).

Table 3.9
Profiles of the Poor and Well-to-Do Population

Indicators	*Population*	
	Poor	*Well-to-Do*
% of the Rural Population	*73.0%*	*12.3%*
Age Structure		
Less than 15 years old	*49.0%*	*24.7%*
From 15 to 59 years old	*45.0%*	*67.2%*
More than 59 years old	*6.0%*	*8.1%*
Average Household Size	*7.5%*	*3.7%*
Average Number of Children	*3.7%*	*0.9%*
% With Potable Water Connection	*10.5%*	*84.0%*
% With Sewage Connection	*29.9%*	*92.8%*

Source: "Morocco-National Report on Human Development 1997," PNUD, 1998

3.1.3 Demographic Perspectives

CERED of the current Ministry of Economic Planning periodically makes population projections for various uses. The last such projection was made in 1997 for the year 2020. The following indicators and data come from this study.

Basic Data and Hypotheses

According to CERED, the main demographic indicators presented in Section 3.1.1 will evolve as follows.

- *Mortality rate: Life expectancy is expected to reach 72 years for men and 76 years for women, with the overall average being 74 years in the year 2020. Life expectancies for the urban population will be slightly higher at 74 years for men and 78 years for women. Given these trends, the crude mortality rate should decrease from 0.72 percent in 1994 to 0.56 percent in 2010 and to 0.51 in the year 2020.*
- *Birth rates: The ISF for all of Morocco is expected to decrease steadily from 3.25 children in 1994 to 2.22 in the year 2010 and then to 2.03 in the year 2020. As with the current trends, the decline is expected to be more rapid in urban areas (1.87 children in the year 2020). Given these trends, the crude birth rate that was 2.93 percent in 1994 will be around 1.80 percent in 2010 and 1.70 percent in the year 2020.*
- *Migration: Even if international migration becomes almost negligible within the next two decades, internal rural-urban migration will continue at a relatively strong pace, at least until the year 2010. In absolute values, the annual number of migrants is expected to reach close to 240,000 people in 2010 and then begin to decline toward 160,000 people by the year 2020. At that time, more than two-thirds of the Moroccan population will be living in urban areas.*

Table 3.10 summarizes these basic trends for the coming periods and shows the anticipated population growth rates for the entire country and for urban areas.

In summary, the Moroccan population will continue to grow even with the key indicators in decline. The overall population growth rate will go from 2.04 percent in 1994 to 1.41 percent in the year 2010 and to 1.19 percent in 2020. Higher growth rates are expected in urban areas (1.96 percent in 2020) than in rural ones (-0.30 percent in 2020).

Table 3.10
Projections of Demographic Indicators

	1982/ 1994	1995/ 2000	2001/ 2005	2006/ 2010	2011/ 2015	2016/ 2020
TOTAL POPULATION						
Gross Birth Rate	2.92	2.19	2.15	1.97	1.80	1.70
Gross Mortality Rate	0.72	0.60	0.58	0.56	0.55	0.51
Net Migration Rate	-0.14	0.00	0.00	0.00	0.00	0.00
Natural Growth Rate	2.20	1.59	1.57	1.41	1.25	1.19
Overall Growth Rate	2.06	1.59	8.70	1.41	1.25	1.19
URBAN POPULATION						
Gross Birth Rate	2.20	2.07	1.95	1.83	1.73	1.61
Gross Mortality Rate	0.48	0.51	0.48	0.48	0.51	0.45
Net Migration Rate	1.89	1.41	1.34	1.24	1.14	0.07
Natural Growth Rate	1.72	1.56	1.47	1.35	1.22	1.16
Overall Growth Rate	3.61	2.97	2.81	2.59	2.36	1.23

Source: CERED 1997, op. cit.

National-Level Projections

Based on the changes in demographic indicators that have been presented, the Moroccan population should grow from 26.1 million people in 1994 to 33.2 million in the year 2010 to 33.7 million in 2020. This would be an average annual population growth rate of 1.4 percent, with the rate tending to the decline since 1982 (Table 3.11).

Table 3.11
Total Population Projections between 1994 and 2020
(x 1,000)

	Total Population *	Growth		Growth Rate (in %)	
		Overall	Ave./Year	Overall	Annual Ave.
1982	*20,420*				
1982-1994	*26,074*	*5,654*	*471*	*27.7%*	*2.06%*
1995-2000	*28,670*	*2,596*	*433*	*10.0%*	*1.59%*
2001-2010	*33,212*	*4,542*	*454*	*15.8%*	*1.48%*
2011-2020	*37,385*	*4,173*	*417*	*12.6%*	*1.19%*
1994-2020		*11,311*	*435*	*43.4%*	*1.40%*

(*) Number at the end of the period.

In absolute terms, the urban population is expected to continue to grow rather rapidly, but with annual growth rates that have also been declining since 1982. The urban population should reach 20.7 million people in the year 2010 and 25.4 million people in 2020. This would be almost double the urban population of 1994. The average annual increase in urban population would be around 462,000 people, or roughly the size of Rabat in 1994.

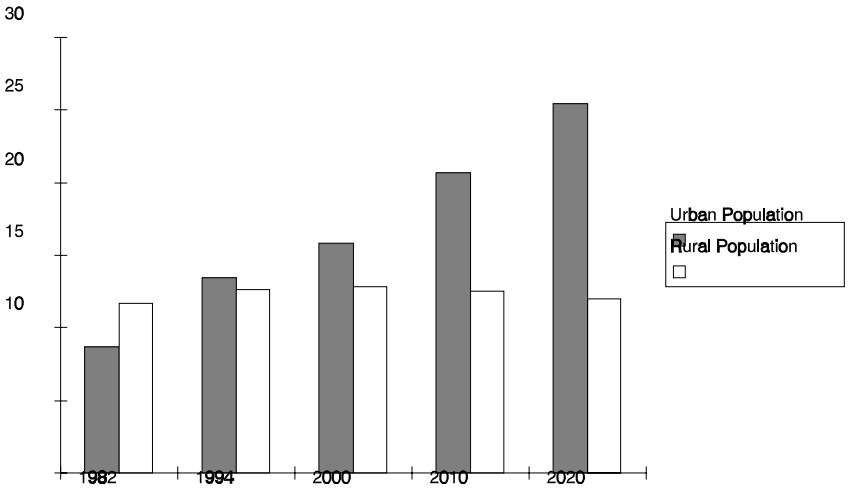
As for the rural population, the number of people living in rural areas is expected to remain about the same as the number in 1994. Its natural population growth will continue to feed migrants to the urban areas.

Table 3.12
Urban Population Projections between 1994 and 2020
(x 1,000)

	Urban Population *	Growth		Growth Rate (in %)	
		Overall	Ave./Year	Overall	Annual Ave.
1982	8,730				
1982-1994	13,408	4,677	390	53.6%	3.64%
1995-2000	15,849	2,441	407	18.2%	2.83%
2001-2010	20,684	4,835	484	30.5%	2.70%
2011-2020	25,411	4,727	473	22.9%	2.08%
1994-2020		12,003	462	89.5%	2.49%

(*) Number at the end of the period.

Figure 3.4
Urban-Rural Populations to the Year 2020
(millions)



Projected future demographic growth will have important consequences on the needs of the population, notably in the areas of education, health, housing, and employment. Newly generated needs will be added to current recorded deficits in each of these sectors. The magnitude of these future needs will be briefly described below based on projections made by CERED for the year 2010.

Impacts on future needs

- ***Education: In the year 2010, there will be close to 584,000 children who are 7 years old and ready to begin their first year of basic education. There will also be close to 6 million students (compared to the current 4 million) ready to be registered in both primary and secondary schools. This estimate is based on a generalization of schooling in the first cycle of primary education, a rate of 75 percent in the second, and a rate of 50 percent in secondary school in the year 2010. As for higher-level education (1st and 2nd cycles), the current numbers will be multiplied by 2.4, from 235,500 students in 1996 to 570,000 in 2010.***
- ***Health: During the same period, hospital capacity will also have to increase. Based on a ratio of one bed for every 700 residents (a health service standard that corresponds to an average level of service), close to 1,700 additional beds will need to be provided each year in order to achieve this standard by the year 2005. This compares to an annual increase of only 140 beds per year that was actually achieved during the 1980s. Similarly, close to 1,800 health centers and 1,200 polyclinics will need to be built in urban areas each year until 2010.***

  To improve the institutional framework for medical services from the actual ratio of one doctor per 2,800 inhabitants to that of one doctor per 1,500 inhabitants in the year 2010, the number of new doctors entering practice each year will need to be around 300 until the year 2010.
- ***Labor force and employment: It is anticipated that the labor force will increase by an average annual rate of roughly 2.8 percent. This would be higher than the population growth rate of 2.1 percent. The increase in the labor force would be around 11.3 million workers by the year 2005 and 12.5 million workers by 2010, an average of 277,000 new job seekers per year.***
- ***Developed urban land: Applying the same land use ratios found in typical town planning documents for Morocco, such as the SDAU and detailed development plans, and basing estimates of future need on an average ratio of 60 square meters per urban inhabitant, approximately 2,730 hectares will need to be developed each year. This development will also affect the investments required to***

provide socioeconomic facilities, infrastructure, housing construction, institutional framework, and management of these activities.

3.2 Economic Profile

Economic development in Morocco is essentially characterized by relatively slow growth punctuated by frequent years of drought.

3.2.1 Economic Growth

Morocco has experienced relatively slow economic growth over roughly the last 20 years as shown in terms of the following periods:

1980-83: +3.6 percent

1984-87: +4.7 percent

1988-92: +3.9 percent

1993-97: +3.0 percent

Despite the continuing diversification of the Moroccan economy, agriculture continues to play the determining role and has been able to show real and sustainable growth. Agriculture contributes as much as 29 percent of Value Added and 30 percent of the country's exports. At the same time, it has experienced frequent and rather serious periods of drought that have presented the national economy with classic crisis situations that include the decline in gross domestic product (GDP), contraction in demand, and increased need for imports. Morocco has experienced a major drought in 30 of the last 88 years, or about one every three years. Shorter periods of drought have also occurred with equally destructive impacts on the economy, such as in 1992 (-37 percent) and 1996 (-43.9 percent).

The Moroccan economy does not benefit from very significant contributions from sectors other than agriculture. The strong economic growth observed between 1971 and 1978 proved to be unsustainable because it was achieved with considerable debt and with a certain disorder in the financial sector that proved to be very costly to the country's economy. The only real positive point from these developments has been that the private sector produces more than 60 percent of the national Value Added. Nevertheless, the strong growth observed in 1970s has slowed and is now increasingly weak.

The average growth rate of nonagricultural activities over the last 27 years can be broken down as follows:

Between	*1971*	*and*	*1978*	*6.1 percent*
Between	*1979*	*and*	*1990*	*3.8 percent*
Between	*1991*	*and*	*1997*	*2.2 percent*

Manufactured products have principally been oriented toward internal consumption. They represent only about 25 percent of exports. The industrial fabric is largely built on import-substitution and has benefitted significantly from custom, tariff, monetary, and institutional protection.

Nevertheless, the country has come to realize several important objectives:

- *an important agriculture sector with a substantially level of performance;*
- *a vast industrial fabric that is close to being fully competitive and better able to adapt to any lowering of protective barriers; and*

- *an active private sector that dominates economy.*

3.2.2 Sectoral Composition of GDP

Agriculture

Agriculture remains the dominating sector in the Moroccan economy and contributes some 18 percent of GDP.

Cereal production covers 56 percent of the total cultivated area. Yields are not very high, reaching only 15 to 18 quintals per hectare during a good year or roughly one-third of the typical European or American output. During periods of drought, yields are reduced by as much as two-thirds and reach only 5 to 7 quintals per hectare. Half of Morocco's cereals are produced in the center and northwest regions (plain of Gharb and Chaouïa, rural areas behind the El Jadida-Khenitra axis). Morocco spends between 2 and 5 billion DH per year to import cereals, which is roughly equivalent to 2 to 5 percent of the total amount spent on imports. The gap in production between a favorable year (for example 1996) and one of severe drought ranges between 1 and 5.7.

Rural families survive by manipulating a number of resources: a main agricultural holding, such as a field of cereal, most frequently wheat, which is an easy commodity to sell; other small productive plots with products destined for autoconsumption and/or sales to surrounding villagers; a cottage industry activity (such as rug making, food transformation, etc.); and a small herd. In drought years, the income from this production is essentially reduced by half.

Table 3.13
Cultivated Surface Area of Selected Crops, 1970-1996
(hectares)

	1970-91	*1980-81*	*1995-96*
Hard Wheat	*16,415*	*13,310*	*22,698*
Soft Wheat	*5,466*	*4,800*	*36,470*
Barley	*25,519*	*22,097*	*38,311*
Corn	*3,899*	*3,327*	*2,350*
Total	*51,299*	*43,534*	*99,829*

Morocco's agricultural area has doubled over the last 25 years with farms larger than 300 hectares in size providing 30 percent of production. These large agricultural holdings are mechanized and have yields that are roughly double those from smaller, traditional farms. Large holdings are located mainly in Gharb, Moulouya, and Chaouïa and on the plain between Fez and Meknes.

One million hectares have been dedicated to irrigated crops. The government is seeking to increase the total amount of irrigated land by some 350,000 hectares over the next five years.

Some 27 percent of the country's arable land is fallow and/or used for the grazing of cattle.

Vegetables are cover crops that allow a rational rotation.

Early harvest and fruit crops are situated in the littoral areas and irrigated zones. Their development is strongly linked to the realization of important investments that include irrigation perimeters, stocking equipment, packaging factories, etc. They require abundant manual labor and their crops are little affected by drought.

Currently, 75 percent of the tomatoes are produced under greenhouses. The climate in Morocco enables the production of tomatoes six to eight weeks before those in Europe. Roughly 25 percent of the production responds to off-season demand (both pre- and post-season). The production of early season crops is very important. Measured in thousands of tons it comes to 484 for tomatoes, 124 for potatoes, and 137 for various other vegetables.

In addition, some 260,000 tons of market-garden crops are transformed each year by canneries. The production of citrus fruits reaches 1.4 million tons, with half of this amount grown in the Souss-Massa region and 25 percent in Moulouya.

Industrial crops mainly involve beet root, which is turned into sugar. Morocco has made important efforts to develop industrial crops to reduce its deficit in sugar, mainly by growing beet root and sugar cane in the northwest region. The sugar deficit is currently 2.4 million tons, accounting for 1,300 million DH (1.8 percent of the total value of imports).

Table 3.14
Cultivated Surface Area, Production, and Yield of Main Crops, 1991-1996

Crop	1991-92	1992-93	1993-94	1994-95	1995-96	Average	% Total
Cultivated Area (hectare 000s)							
Cereals	5,013	5,020	6,074	3,986	5,981	5,215	56%
Vegetables	450	322	347	316	312	350	4%
Oil Seeds	219	251	98	72	109	150	2%
Industrial Crops	157	146	151	157	154	153	2%
Animal Fodder	171	168	171	217	211	188	2%
Market Gardening	208	204	225	175	235	209	2%
Fallow Lands	2,523	2,687	1,812	3,824	1,827	2,535	27%
Fruits	653	664	666	725	736	689	7%
Indoor Crops	199	207	252	181	273	222	2%
Total	9,195	9,256	9,291	9,291	9,292	9,265	100%
Total Production and Yield per Hectare (metric tonne 000s)						Min/Max Ratio	
Cereals	29,421	28,100	96,282	17,658	100,932	1: 5.7	
Yield	5.9	5.6	15.9	4.4	16.9	1: 3.8	
Vegetables	1,545	774	2,767	874	2,734	1: 3.6	
Yield	3.4	2.5	8.1	2.8	8.8	1: 3.5	
Industrial Crops	37,538	41,090	40,725	37,495	36,517	1: 1.1	
Yield	260.1	282.0	262.7	238.8	237.4	1: 1.2	

Source: Ministry of Agriculture

Table 3.15
Agricultural Exports, 1996

Crop	*Exports (metric tons)*
Citrus Fruits	*2,700*
Tomatoes	*719*
Vegetables	*332*
Potatoes	*224*
Canned Vegetables	*1,167*
Canned Fruits and Vegetables	*179*
Other	*1,351*
Total Agricultural Exports	*6,672*
Total Exports	*41,356*
Agricultural Exports as % Total	*16%*

The export of agricultural products represents roughly 16 percent of the value of all exports, but only 10 percent of the value of agricultural production.

Cattle breeding exists in all parts of the country, but is more predominant in the northwest, center, and Tensift regions. The entire stock includes some 2.4 million head of cattle, with 800,000 resulting from improved breeding practices. The local stock produces little milk and is unprofitable. Even with this improvement in the stock, however, the country is required to import milk products and to bring in live animals to breed.

There are also 16 million head of sheep and 4.7 million goats, the quasi-totality of which are for local breeding and herding. These sheep and goats are distributed more or less equally throughout the country.

The 3.5 millions hectares of forest are also used as grazing areas for cattle with some 500,000 hectares of grassland now in process of reforestation.

Fishing continues to hold a very weak position in the Moroccan economy, even though the country has access to very important seafood resources. Only 625,000 tons of fish are brought in each year, despite a relatively important fleet. Fishing accounts for only 1.6 percent of GDP, but 14 percent of exports, essentially mollusks and crustaceans and transformed products. Some 138,000 tons of the annual harvest are destined for canning plants.

Table 3.16
Value of Marine Exports, 1996

Product	*Exports (000s DH)*
Sea Moss	*167*
Seaweed	*37*

Canned Seafood	*1,535*
Coral	*2*
Fish Flour	*15*
Shellfish	*4,110*
Frozen Fish	*81*
Total Marine Exports	*5,948*
Total Exports	*41,356*
Marine Exports as % Total	*14%*

The following table indicates the support given by the banking system to the agriculture and fishing sectors. Roughly 10 percent of the flow of funds over the medium to long term are devoted to agriculture, forestry, and fishing.

Table 3.17
Agricultural and Total Bank Lending, 1996-1996
(000s DH)

Sector	*1992*	*1993*	*1994*	*1995*	*1996*
Medium-Term Loans	*9,792*	*10,412*	*11,850*	*12,305*	*10,871*
Agriculture, Forestry, Fishing	*744*	*812*	*799*	*851*	*890*
Long-Term Loans	*9,499*	*9,252*	*10,592*	*11,986*	*13,108*
Agriculture, Forestry, Fishing	*918*	*1,042*	*1,271*	*1,454*	*1,560*
Total Loans	*19,291*	*19,664*	*22,442*	*24,291*	*23,979*
Total Agriculture, Forestry, Fishing	*1,662*	*1,854*	*2,070*	*2,305*	*2,450*
% Agriculture, Forestry, Fishing	*8.6%*	*9.4%*	*9.2%*	*9.5%*	*10.2%*

Morocco has a very dynamic policy in terms of making the best use of its agricultural resources. Of all countries on the continent, it is the only one to produce an important increase in the amount of cultivated land, launch ambitious irrigation programs, and rehabilitate its forests. Fishing activities could produce better results, but Moroccan companies add significant value to exported products from the sea, given that the market for fresh fish is a difficult one.

As time goes on, Morocco will have to deal with two key factors that limit the growth of agriculture and reduce its potential outputs: water and the land tenure/use system. Similar constraining factors for fishing would be the export market and the local standard of living, which might not allow a surplus of fish to flow into the domestic market.

Secondary Sector

Mining

Morocco is one of the world's largest producers of phosphate. Half of the phosphate extracted in Morocco is exported. The other half supplies a local industry of transformation of which 90 percent of the products are exported. Phosphate products contribute from 16 to 17 percent of exports.

Table 3.18
Production, Transformation, and Sale of Phosphate, 1992-1996

Product/Source	*1992*	*1993*	*1994*	*1995*	*1996*
Phosphate					
Extraction (ton 000s)	*16,920*	*15,833*	*18,416*	*20,338*	*20,740*
Commercial Production (ton 000s)	*19,145*	*18,305*	*20,335*	*20,314*	*20,792*
Domestic Sales (ton 000s)	*10,562*	*9,985*	*10,906*	*10,766*	*10,534*
Exports (ton 000s)	*9,129*	*8,398*	*9,527*	*9,420*	*10,140*
Exports (millions DH)	*2,621*	*2,416*	*2,584*	*2,426*	*3,030*

Product/Source	*1992*	*1993*	*1994*	*1995*	*1996*
Phosphate Derivates					
Domestic Sales (ton 000s)	*336*	*290*	*309*	*276*	*273*
Domestic Sales (millions DH)	*515*	*427*	*467*	*478*	*486*
Exports (ton 000s)	*3,284*	*3,824*	*3,335*	*3,488*	*3,492*
Exports (millions DH)	*6.3*	*5.9*	*6.4*	*7.6*	*8.1*

Morocco also exploits ores of lead, zinc, silver, iron, copper, manganese, fluorine, and baritine, to a much smaller economic degree. The mining sector is growing very slowly, from 2 to 3 percent per year.

Table 3.19
Contribution of Mining to GDP
(millions DH)

	1992	*1993*	*1994*	*1995*	*1996*
Total Value of Mining	*5,073*	*4,958*	*5,151*	*5,057*	*5,539*
GDP	*242,912*	*249,223*	*279,323*	*281,207*	*320,920*
Share of GDP	*2.1%*	*2.0%*	*1.8%*	*1.8%*	*1.7%*

Manufacturing

Food and chemical industries predominate this sector and insure 77 percent of its production.

Agro-industries include nine major sugar refineries that process a million tons per year from beet root and sugar cane into locally produced sugar and crude sugar imports. The average consumption of sugar per person per year is 30 kilograms.

Flour mills process 31 million quintals per year or around 110 kilograms per capita.

The manufacturing of cooking oils includes 170 oil mills in which a single factory owned by Lesieur insures close to two-thirds of the national industrial oil milling capacity.

Milk production covers virtually the entire country and is organized by the government and cooperatives to supply some 11 dairies.

Canneries and cooking oil mills are the only exporting activities of significant importance; other industries are almost exclusively focused on the domestic market.

Table 3.20
Industrial Production by Sector, 1991-1995
(millions DH)

Sector	*1991*	*1992*	*1993*	*1994*	*1995*
Food Processing	*35,521*	*37,951*	*40,482*	*42,827*	*45,236*
Textile and Leather	*19,673*	*20,411*	*20,667*	*21,838*	*22,446*
Chemical	*34,414*	*35,831*	*37,799*	*39,438*	*41,447*
Engineering and Metal Works	*15,973*	*16,490*	*15,245*	*16,534*	*17,495*
Electrical/Electronic	*4,352*	*4,016*	*3,271*	*3,425*	*3,412*
Total	*109,933*	*114,699*	*117,464*	*124,062*	*130,036*
% Change		*4.3%*	*2.4%*	*5.6%*	*4.8%*
Breakdown by Sector					
Food Processing	*32%*	*33%*	*34%*	*35%*	*35%*
Textile and Leather	*18%*	*18%*	*18%*	*18%*	*17%*
Chemical	*31%*	*31%*	*32%*	*32%*	*32%*
Engineering and Metal Works	*15%*	*14%*	*13%*	*13%*	*13%*
Electrical/Electronic	*4%*	*4%*	*3%*	*3%*	*3%*
Total	*100%*	*100%*	*100%*	*100%*	*100%*

The chemical industry is mainly focused on extractive operations, mines, and quarries. Cement factories produce 6.5 million tons for the domestic market or about 200 kilograms per person, a relatively small amount compared to Spain at 600 kilograms per person, Algeria at 320, Egypt at 300, and Tunisia at 400.

Mechanical industries, as well as electronic and electrical industries, are equally oriented to the domestic market, with some large-scale operators that include Renault, Fiat, Peugeot, Goodyear, General Tire, Suzuki, Thomson, and Dawoo.

The textile industry invests and exports the most. The agreement signed between the European Union and Morocco should open new markets as long as the Moroccan textile industry can keep its costs under control, particularly in light of the fact that Moroccan products are already considered to be expensive.

Table 3.21
Exports of Manufactured Goods, 1991-1995
(millions DH)

Sector	*1991*	*1992*	*1993*	*1994*	*1995*
Food Processing	*5,459*	*5,744*	*5,589*	*5,762*	*6,135*
Textile and Leather	*10,489*	*11,587*	*12,280*	*12,618*	*13,720*
Chemical	*8,835*	*8,632*	*7,835*	*9,096*	*10,213*
Engineering and Metal Works	*1,547*	*1,420*	*1,504*	*1,544*	*1,770*
Electrical/Electronic	*1,461*	*1,389*	*581*	*647*	*746*
Total	*27,791*	*28,772*	*27,789*	*29,667*	*32,584*
% Total Exports					
Food Processing	*15.4%*	*15.1%*	*13.8%*	*13.5%*	*13.6%*
Textile and Leather	*53.3%*	*56.8%*	*59.4%*	*57.8%*	*61.1%*
Chemical	*25.7%*	*24.1%*	*20.7%*	*23.1%*	*24.6%*
Engineering and Metal Works	*9.7%*	*8.6%*	*9.9%*	*9.3%*	*10.1%*
Electrical/Electronic	*33.6%*	*34.6%*	*17.8%*	*18.9%*	*21.9%*
Total, Manufactured Goods	*25.3%*	*25.1%*	*23.7%*	*23.9%*	*25.1%*

Overall investment in manufacturing industries is not substantial enough and investments in small-scale enterprises are stagnating. Interest rates remain high, but it is mainly the conservative rules and operating procedures of the banks that make them reluctant to lend to private enterprises.

Table 3.22
Manufacturing Investment by Sector, 1991-1995
(millions DH)

Sector	*1991*	*1992*	*1993*	*1994*	*1995*
Food Processing	*1,924*	*2,163*	*3,145*	*2,368*	*2,100*
Textile and Leather	*1,942*	*1,737*	*1,311*	*1,429*	*1,707*
Chemical	*2,896*	*4,127*	*4,789*	*2,836*	*3,021*
Engineering and Metal Works	*727*	*599*	*573*	*627*	*740*
Electrical/Electronic	*191*	*155*	*212*	*268*	*293*
Total	*7,680*	*8,781*	*10,030*	*7,528*	*7,861*
% by Sector					
Food Processing	*25%*	*25%*	*31%*	*31%*	*27%*
Textile and Leather	*25%*	*20%*	*13%*	*19%*	*22%*

Sector	1991	1992	1993	1994	1995
Chemical	38%	47%	48%	38%	38%
Engineering and Metal Works	9%	7%	6%	8%	9%
Electrical/Electronic	2%	2%	2%	4%	4%
Total	100%	100%	100%	100%	100%

Table 3.23 shows that investment compared to production is relatively constant, based on the size of companies and except for small-scale enterprises.

Table 3.23
Manufacturing Production and Investment, 1995
(millions DH)

Firm Size Range (No. of Employees)	Number of Firms	Production	Investment	Investment/ Production
0 - 9	1,984	2,867	315	11%
10-49	2,616	19,891	1,360	7%
50 - 99	726	17,529	963	5%
100 - 199	511	22,276	1,376	6%
200 - 499	344	35,377	2,607	7%
500 and over	78	32,096	1,240	4%
Total	6,259	130,036	7,861	6%

Companies with more than 100 workers achieve 62.5 percent of production and 78.3 percent of exported manufactured products, respectively.

Table 3.24
Manufacturing Production and Exports by Firm Size, 1995
(millions DH)

Firm Size Range (No. of Employees)	*Number of Firms*	*Production*	*% Total*	*Cumulative % Total*	*Exports*	*% Total*	*Cumulative % Total*	*Exports/ Production*
0 - 9	*1,984*	*2,867*	*2.2%*	*2.2%*	*321*	*1.0%*	*1.0%*	*11.2%*
10-49	*2,616*	*19,891*	*15.3%*	*17.5%*	*3,685*	*11.3%*	*12.3%*	*18.5%*
50 - 99	*726*	*17,529*	*13.5%*	*31.0%*	*3,059*	*9.4%*	*21.7%*	*17.5%*
100 - 199	*511*	*22,276*	*17.1%*	*48.1%*	*5,084*	*15.6%*	*37.3%*	*22.8%*
200 - 499	*344*	*35,377*	*27.2%*	*75.3%*	*8,040*	*24.7%*	*62.0%*	*22.7%*
500 and over	*78*	*32,096*	*24.7%*	*100.0%*	*12,395*	*38.0%*	*100.0%*	*38.6%*
Total	*6,259*	*130,036*	*100.0%*	*--*	*32,584*	*100.0%*	*--*	*25.1%*

Figure 3.5
Percentage of Production and Exports by Size of Company

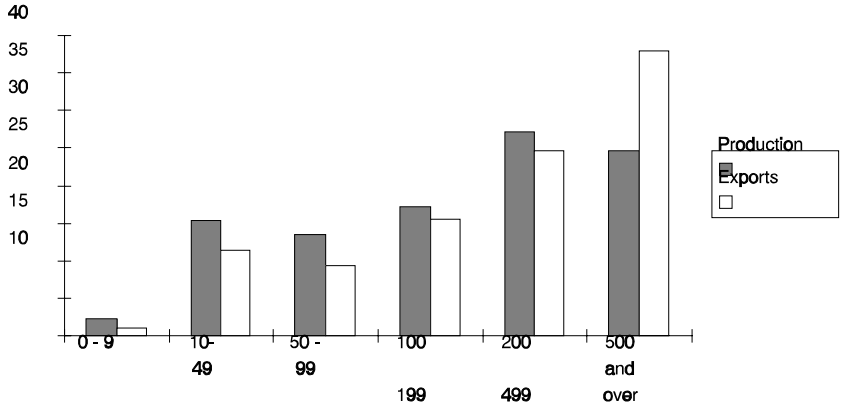


Table 3.25
Bank Lending by Manufacturing Sector, 1991-1995
(millions DH)

Sector	*1991*	*1992*	*1993*	*1994*	*1995*
Medium-Term Lending	*9,792*	*10,412*	*11,850*	*12,305*	*10,871*
Mining	*60*	*67*	*59*	*80*	*81*
Metal Work	*681*	*764*	*943*	*767*	*537*
Chemical	*279*	*348*	*401*	*437*	*383*
Food Processing	*775*	*1,100*	*1,268*	*1,150*	*981*

Textile, Leather and Shoes	*1,468*	*1,485*	*1,391*	*1,199*	*1,043*
Wood and Wood Products	*199*	*250*	*272*	*322*	*347*
Total Manufacturing	*3,463*	*4,015*	*4,333*	*3,955*	*3,371*
Manufacturing as % Total	*35.4%*	*38.6%*	*36.6%*	*32.1%*	*31.0%*
Long-Term Lending	*9,499*	*9,252*	*10,592*	*11,986*	*13,108*
Mining	*73*	*62*	*53*	*38*	*33*
Metal Work	*297*	*257*	*212*	*154*	*125*
Chemical	*146*	*146*	*168*	*164*	*155*
Food Processing	*268*	*268*	*275*	*243*	*238*
Textile, Leather, and Shoes	*875*	*885*	*813*	*755*	*638*
Wood and Wood Products	*89*	*93*	*100*	*303*	*321*
Total Manufacturing	*1,748*	*1,711*	*1,621*	*1,657*	*1,511*
Manufacturing as % Total	*18.4%*	*18.5%*	*15.3%*	*13.8%*	*11.5%*
Total Lending	*19,291*	*19,665*	*22,442*	*24,291*	*23,979*
Total Manufacturing	*5,211*	*5,726*	*5,955*	*5,612*	*4,882*
Manufacturing as % Total	*27.0%*	*29.1%*	*26.5%*	*23.1%*	*20.4%*

Table 3.26 shows that the banking system provides only moderate support to local industry. While it devotes from 20 to 29 percent of its credits to long- and medium-term economy, its outstanding debt represents only about six months of investments. At the end of 1996, bond holder capitalization was only 22 billion DH, or about four years of investment. In addition, this outstanding debt is in the process of being reduced.

Industries are very largely concentrated within the Casablanca-Khenitra corridor that brings together 59 percent of industrial employment and 56 percent of investment and distributes 62 percent of salaries. The government has been seeking ways to better balance the distribution of industry, but current levels and locations of investment indicate that the concentration of industrial activities along the Casablanca-Khenitra axis will continue. Putting in place the necessary incentives to encourage a wider distribution of industry would be too expensive, roughly on the order of 1 to 2 percent of government income.

Table 3.26
Industrial Concentration in the Casablanca-Khenitra Corridor, 1995
(millions DH)

Region	*No. of Firms*	*Employment*	*Production*	*Wages*	*Exports*	*Investment*
Casablanca-Khenitra Corridor	*3,375*	*215,566*	*69,041*	*9,967*	*14,338*	*4,399*
% Total	*54%*	*59%*	*53%*	*62%*	*44%*	*56%*
Other Morocco	*2,884*	*151,723*	*60,995*	*6,085*	*18,246*	*3,462*
% Total	*46%*	*41%*	*47%*	*38%*	*56%*	*44%*
Total	*6,259*	*367,289*	*130,036*	*16,052*	*32,584*	*7,861*

Manufacturing contributes almost 17 percent of GDP.

Table 3.27
Manufacturing as Share of GDP, 1992-1996
(millions DH)

Production	*1992*	*1993*	*1994*	*1995*	*1996*
Manufacturing	*44,050*	*44,851*	*47,586*	*51,681*	*54,384*
Total (GDP)	*242,912*	*249,223*	*279,323*	*281,207*	*320,920*
% GDP	*18.1%*	*18.0%*	*17.0%*	*18.4%*	*16.9%*

Construction Sector

Over the past 10 years, the construction sector in Morocco has experienced a fairly favorable evolution. The value added from construction has grown from 7,400 million DH in 1987 to an annual average of 12,070 million DH between 1991 and 1995 and to 13,520 million DH in 1996. Nevertheless, the input of the sector to GDP decreased slightly during the last decade. It went from 4.7 percent in 1987 to 4.1 percent in 1996. Its inputs were equal to or greater than 5.0 percent between 1988 and 1992.

Table 3.28
Changes in Key Construction Sector Data, 1987-1996

	Value Added in Construction Sector		*Gross Fixe Capital Formation (GFCF in millions of DH)*		
Year	*Million DH*	*% GDP*	*Buildings (MDH)*	*% in Total GFCF*	*Total GFCF Buildings*
1987	*7,394*	*4.7%*	*9,447*	*29.9%*	*16,797*
1988	*9,139*	*5.1%*	*11,804*	*31.7%*	*20,602*
1989	*10,357*	*5.5%*	*13,498*	*30.9%*	*22,912*
1990	*11,354*	*5.3%*	*15,327*	*30.0%*	*24,849*
1991	*12,060*	*5.0%*	*16,214*	*30.1%*	*25,745*
1992	*12,040*	*5.0%*	*15,552*	*28.6%*	*25,411*
1993	*12,000*	*4.8%*	*15,123*	*26.7%*	*25,222*
1994	*12,062*	*4.3%*	*15,220*	*26.5%*	*25,623*
1995	*12,199*	*4.4%*	*14,886*	*24.5%*	*26,005*
1996	*13,515*	*4.1%*	*16,711*	*25.8%*	*28,760*

Source: Ministry of Housing, 1997

Gross Fixed Capital Formation related to construction grew from 9,447 million DH in 1987 to 16,711 million DH in 1996. Its annual growth was close to 5.5 percent and was largely due to the sub-branch of housing construction.

Nevertheless, the construction sector has a low growth rate compared to demographic requirements, even in light of a substantial performance in 1996. This trend did not continue into 1997 at the same rate. The numbers presented in Table 3.29 apply to the urban population. The objective of 100,000 housing units was nevertheless achieved.

Table 3.29
Key Construction Indicators in Urban Municipalities by Building Type, 1996

Term	*Building Permits*	*Total Footprint*	*Total Floor Area*	*Market Value*	*Number of Units*	*Number of Rooms*
Unit	*no.*	*m2*	*m2*	*000s DH*	*no.*	*no.*
Apartment Buildings	*6,191*	*5,263,266*	*1,257,304*	*6,534,059*	*55,454*	*174,610*
Villas	*2,200*	*737,811*	*355,675*	*1,057,275*	*3,259*	*15,287*
Traditional Moroccan	*28,082*	*5,112,475*	*2,272,796*	*5,465,433*	*46,074*	*145,010*
Total Housing	*36,473*	*11,113,552*	*3,885,775*	*13,056,767*	*104,787*	*334,907*
Commercial/Industrial Bldgs	*2,062*	*817,283*	*521,460*	*1,120,983*		
Administrative Buildings	*185*	*225,166*	*114,601*	*443,854*		
Other	*440*	*65,025*	*50,388*	*84,246*		
Total	*39,160*	*12,221,026*	*4,572,224*	*14,705,850*	*104,787*	*334,907*
% Total						
Apartment Buildings	*16%*	*43%*	*27%*	*44%*	*53%*	*52%*
Villas	*6%*	*6%*	*8%*	*7%*	*3%*	*5%*
Traditional Moroccan	*72%*	*42%*	*50%*	*37%*	*44%*	*43%*
Total Housing	*93%*	*91%*	*85%*	*89%*	*100%*	*100%*
Commercial/Industrial Bldgs	*5%*	*7%*	*11%*	*8%*	*-*	*-*
Administrative Buildings	*0%*	*2%*	*3%*	*3%*	*-*	*-*
Other	*1%*	*1%*	*1%*	*1%*	*-*	*-*
Total	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*

Particular notice should be given to the rapid reduction in the average area per housing unit, which went from 149 m^2 to 117 m^2 over a five-year period. This decline may be at least partially due to the much stronger participation of housing developers, who in 1996 put some 55,000 housing units on the market. In preceding years, they had provided only around 20,000 housing units. The overall number of housing units offered on the market had increased by 18.6 percent and their total value by 32.4 percent. Such rapid, unpredictable increases also make the market much more fragile, for as affordable demand for this type of housing once again slows, the banking system will reduce its credits even more.

Individual housing units nevertheless remain the predominant type of formal housing and represent at least two-thirds of housing supply. In attempting to distinguish a Moroccan type of housing unit, a criterion of housing value has been introduced. The average cost of a Moroccan house is 118,620 DH and that of an apartment is 117,820 DH. The small difference in this analysis represents the walls that are shared between apartments. Particular attention should be given to the fact that the cost of this modest housing represents roughly 71 months of the minimum salary paid to a Moroccan worker of 1,660 DH. This situation requires a monthly rate of effort (percentage of income devoted to housing) that is almost twice as high as normally paid and/or affordable by low-income families. It points out the difficulty that low-income Moroccan families face in obtaining formal housing finance.

Other housing sector indicators showed that:

- ***Cement sales in Morocco experienced an important evolution, growing from 4.2 million tons in 1988 to 6.45 million tons in 1996. Sales of construction steel went from 386 million tons in 1991 to 456 million tons in 1995;***

- ***In 1996, the construction sector employed close to 8.3 percent of urban work force (almost 334,000 people) compared to 7.1 percent in 1995.***
- ***For low-income housing (with the exception of the large cities of Casablanca and Rabat where land prices reach 5,800 DH per square meter) the price of land on which to build varied between 650 and 2,500 DH per square meter.***

Table 3.30
Key Construction Sector Data, 1992-1996

Datum	*Unit*	*1992*	*1993*	*1994*	*1995*	*1996*
Term	*no.*	*27,362*	*29,307*	*31,379*	*33,013*	*39,160*
Total Footprint	*m2*	*2,913,588*	*3,109,586*	*3,279,982*	*3,613,287*	*4,572,224*
Total Floor Area	*m2*	*7,499,663*	*7,919,260*	*8,067,981*	*9,487,089*	*12,221,026*
Market Value	*000s DH*	*8,729,952*	*9,055,297*	*9,377,233*	*11,109,689*	*14,705,850*
Number of Dwelling Units	*no.*	*50,299*	*53,460*	*57,281*	*66,586*	*104,787*
Number of Rooms	*no.*	*166,179*	*172,906*	*187,275*	*216,066*	*334,907*
Increase in Number of Rooms	*%*	*-*	*7%*	*7%*	*5%*	*19%*
Increase in Floor Area	*%*	*-*	*7%*	*5%*	*10%*	*27%*
Increase in Market Value	*%*	*-*	*4%*	*4%*	*18%*	*32%*
Mean Floor Area per Dwelling Unit	*m2*	*149*	*148*	*141*	*142*	*117*

Service Sector

Services contribute roughly 51 percent of GDP, assuming that government administration is included. Even though a slight decrease in service activity has been recently observed, such an observation over a short period of time is not particularly significant. The IMF considers that the administrative share (13 percent) has to decline if the economy is to become more efficient.

Table 3.31
Tertiary Production by Sub-Sector, 1992-1996
(millions DH)

Sector	*1992*	*1993*	*1994*	*1995*	*1996*
Total Services	*96,041*	*99,639*	*107,327*	*109,907*	*118,084*
Share of GDP	*39.5%*	*40.0%*	*38.4%*	*39.1%*	*36.8%*
Trade	*51,168*	*51,313*	*55,274*	*55,102*	*60,207*
Transportation	*15,408*	*16,465*	*16,631*	*17,509*	*18,153*
Other Services	*29,465*	*31,861*	*35,421*	*37,296*	*39,725*
Hotel and Restaurant	*4,343*	*5,042*	*5,534*	*5,505*	*6,021*
Other Commercial Services	*25,473*	*27,220*	*29,788*	*31,350*	*33,263*
Financial Services	*10,590*	*11,114*	*11,537*	*13,659*	*15,298*
Banking	*-10,942*	*-11,514*	*-11,437*	*-13,218*	*-14,858*
Government	*30,979*	*32,507*	*34,134*	*36,740*	*39,350*
Share of GDP	*12.8%*	*13.0%*	*12.2%*	*13.1%*	*12.3%*
GDP	*242,912*	*249,223*	*279,323*	*281,207*	*320,920*
Trend of GDP	*100*	*103*	*115*	*116*	*132*
Trend of Services	*100*	*104*	*112*	*114*	*123*
Trend of Government	*100*	*105*	*110*	*119*	*127*

Tourism

Tourism holds an important place in Moroccan economy. Even though separate accounts do not exist under the heading of tourism, its contribution to GDP can be roughly estimated at 5 percent by taking into account the 12 billion DH of money changed, as calculated by the central bank and invisible services (banking activity, transportation) and various economic side effects.

Tourism is in a period of regression and has yet to re-establish itself, even though the country has additional exploitable resources for tourism. The industry is clearly stagnating when entries into the country from Algeria are deducted. Since the events of 1994-1995, the frontiers between the two countries have been closed. The numbers of non-Algerian and non-Moroccan tourists have not noticeably increased. The tourism industry has also experienced difficulties in profitability: visitation rates are low, the occupancy rate for hotels is below 40 percent, and the sector is in debt.

The areas most affected by this situation are those in the east and close to the Algerian border (with a rate of only 9 percent), Great South (Saharan tourism), and the coast along the Mediterranean.

Entries by Moroccans living outside the country have also been reduced. As a result, the government launched an important campaign in 1998 to improve the reception of these returnees. Important measures have included an overseas information campaign, better organization in crossing the Strait of Gibraltar, greater flexibility in border and customs control, and a press campaign in Morocco.

Table 3.32
Tourist Entries by Original, 1992-1996 (000s)

Origin	*1992*	*1993*	*1994*	*1995*	*1996*
Europeans	*1,291*	*1,413*	*1,298*	*1,237*	*1,335*
Arabs	*1,782*	*1,354*	*802*	*107*	*112*
Algerians	*1,659*	*1,238*	*700*	*11*	*15*
Other	*179*	*178*	*193*	*184*	*191*
Total Foreign Tourists	*3,252*	*2,946*	*2,294*	*1,528*	*1,638*
Moroccans Living Abroad	*1,138*	*1,082*	*1,172*	*1,074*	*1,055*
Total	*4,390*	*4,027*	*3,465*	*2,602*	*2,693*
Foreigners minus Algerians	*1,593*	*1,708*	*1,594*	*1,517*	*1,623*
Trend	*100*	*107*	*100*	*95*	*102*

Table 3.33
Hotel Occupancy Rates by Class and Region, 1993-1996

	Percent Occupancy			
Category	*1993*	*1994*	*1995*	*1996*
Class				
5 Star	*39.5*	*37.9*	*34.0*	*37.8*
4 Star	*44.1*	*43.7*	*38.5*	*37.8*
3 Star	*32.9*	*32.2*	*29.1*	*25.3*
2 Star	*28.5*	*24.9*	*21.1*	*24.0*
1 Star	*27.3*	*25.1*	*23.2*	*17.6*
Bungalows	*48.3*	*49.4*	*42.2*	*46.2*
Resorts	*36.5*	*38.4*	*34.7*	*27.8*
Total	*40.0*	*38.9*	*35.2*	*33.8*
Region				
Mediterranean	*33.1*	*31.4*	*26.3*	*25.0*
Northcentral	*36.5*	*32.7*	*27.1*	*28.0*
East	*18.2*	*14.5*	*8.5*	*8.8*
Center	*37.0*	*35.0*	*30.0*	*31.8*
Great South	*28.3*	*27.0*	*20.1*	*23.5*
Central South	*39.0*	*36.7*	*32.0*	*37.3*
Coastal South	*51.7*	*53.7*	*48.4*	*42.5*
Total	*40.0*	*38.9*	*35.2*	*33.8*

Between 1976 and 1986, the tourism sector experienced an average growth of 7 percent per year. The growth in tourism activities was sustained by the wide distribution of large amounts of credit in a manner that received very little control by public agencies. Bringing order to the situation required the debt to be updated and credits reduced, which put a good number of firms into serious financial difficulty.

Tourist facilities have been centered in the south, with two strong focal points at Agadir and Marrakech that contain about 60 percent of the classified hotel capacity.

To obtain a normal economic return on current hotel facilities, demand would have to increase by 50 percent. The number of overnight stays would have to increase from 10 million to 15 million.

Table 3.34
Tourism Revenue, 1986-1996
(millions DH)

Year	Revenue	Trend
1986	6,730	100
1987	7,800	116
1988	8,276	123
1989	8,614	128
1990	10,548	157
1991	8,822	131
1992	11,706	174
1993	11,479	171
1994	11,332	168
1995	9,929	148
1996	12,030	179

Tourism Revenues as Percentage of GDP'
(millions DH)

Year	Tourism Revenues	GDP	% GDP
1992	11,706	242,912	4.8%
1993	11,479	248,223	4.6%
1994	11,332	279,323	4.1%
1995	9,929	281,207	3.5%
1996	12,030	320,920	3.7%

Table 3.35
Tourist Hotel Nights by Region, 1996

Region	Rated Hotels	Unrated Hotels	All Hotels	% Total
South	*4,075,486*	*230,707*	*4,306,193*	*34.2%*
Tensift	*2,455,610*	*393,335*	*2,848,945*	*22.6%*
Center	*1,151,166*	*632,033*	*1,783,199*	*14.2%*
Northwest	*1,318,999*	*809,942*	*2,128,941*	*16.9%*
North Central	*676,722*	*284,505*	*961,227*	*7.6%*
East	*93,453*	*96,588*	*190,041*	*1.5%*
South Central	*301,770*	*75,036*	*376,806*	*3.0%*
Total	*10,073,206*	*2,522,146*	*12,595,352*	*100.0%*

Source: Ministry of Tourism

3.2.3 Employment

The perusal of employment data gives the impression of a situation that is relatively favorable. At first glance, the data are comparable to those of Spain and perhaps even better. In fact, however, they tend to cover over an even more serious concern, namely, the precariousness of employment. Although statistics are precise and correctly determined, it is important to keep in mind the reality of the concepts being used, even when universally applied. Although, for example, 66 percent of the labor force is paid, a very acceptable figure, only 35 percent of the population benefits from access to any form of social security, a percentage that is much lower than in Spain, Portugal, or Greece, countries that use roughly the same definitions and achieve the same employment percentages as Morocco.

*The **labor force** includes all persons available for the production of goods and services. A wage earner is a person who works or has worked in return for a salary. The **working labor force** includes all persons participating in the production of goods and services even on an hourly basis. The **unemployed labor force** includes all persons out of work and looking for work.*

These definitions can cover over very different situations based on the level of social protection. In the case of the urban population in Morocco, many of whom have migrated to the cities, there are persons who have an urban job and still return to the countryside at the time of harvest to help out their family. They would be counted as part of the labor force. In the United States, such workers would be classified in much the same manner, but the number of cases would be marginal, which is not the case in Morocco. Similarly, there exists in virtually all Moroccan cities, places where day labor can be recruited for work that is not covered by social security, and that is sometimes remunerated in kind instead of by cash. According to the records, these people would be counted as part of the labor force. Social security practices should also be taken into account for certain construction sites that are being built solely by temporary workers, paid partially in nature and well under the legal salary.

More than the level of employment, which can appear to be acceptable, it is the precariousness of employment, the weakness of the social safety net, and the laxity in the application of regulations that can change completely the statistical vision of the sector and international comparisons.

The average rate of unemployment in 1997 was 16.4 percent with important differences within the labor force:

- ***by gender, men: 14.7 percent, women 21.2 percent;***
- ***by regions, the south: 20.9 percent (including those prefectures where the rate reached 26.1 percent [Tan-Tan, Laayoune]), the eastern region (affected by the end of transborder trade) with a rate of 23.9 percent, and, at the opposite end, the center-south with only 13.6 percent. The other regions, including Casablanca, are very close to the national average; and***
- ***by age group: the rate of unemployment is double in the 15-24 year old age group, which explains why 57 percent of the unemployed have never worked.***

According to a survey carried out in 1997, the average length of the period of unemployment is 38 months. This average duration is very long, given that typical statistical distributions on employment show that at least a quarter of the group has experienced a period of unemployment double that of the average and only another quarter has experienced a period less than 19 months. Some 44 percent of unemployed worker have not been employed since they completed their studies.

Table 3.37 shows the importance of the manufacturing industry in creating jobs. It insures some 25 percent of urban jobs, half of which are provided by companies with more than 100 workers.

Some 52.8 percent of employment is in the service sector, of which 481,000 jobs are in the public service.

Construction activity occupies roughly 8.3 percent of the jobs, which is confirmed by the rather weak consumption of cement. The construction sector is habitually an intermediate sector between traditional activities of day labor and small enterprises. Day workers often conceal a situation of underemployment.

A statistical survey in 1997 demonstrated a very strong slowdown in employment in the agro-food industry (-71,680 jobs), a rise in construction activity (+12 percent) and services (+13 percent), and little change in other industries (+2 percent).

Table 3.36
Urban Employment Data, 1996
(000s)

Category	*Men*	*Women*	*Total*
Total Population	***7,176***	***7,353***	***14,528***
Labor Force			
Total	***3,796***	***1,272***	***5,068***
0 - 15 years old	***86.1***	***176.5***	***262.6***
15 - 34 years old	***3745.8***	***4771.8***	***8517.6***
35 - 59 years old	***3028.2***	***2249.9***	***5278.1***
60+ years old	***315.7***	***154.4***	***470.1***
0 -15 years old (% total LF)	***1.2%***	***2.4%***	***1.8%***
15 - 34 years old (% total LF)	***52.2%***	***64.9%***	***58.6%***
35 - 59 years old (% total LF)	***42.2%***	***30.6%***	***36.3%***
60+ years old (% total LF)	***4.4%***	***2.1%***	***3.2%***
Median Age	***34.9***	***31.1***	***34.0***
Labor Force/Total Population			
Total	***52.9%***	***17.3%***	***34.9%***
15 - 24 years old	***53.0%***	***22.6%***	***37.6%***
25 - 59 years old	***94.1%***	***27.6%***	***59.9%***
25 - 34 years old	***94.4%***	***34.8%***	***63.4%***
35 - 59 years old	***93.9%***	***22.0%***	***57.2%***
< 60 years old	***33.8%***	***5.5%***	***19.8%***
Employed Population	***3,222.0***	***1,001.8***	***4,223.8***
Unemployed Population	***574.8***	***269.9***	***844.7***
Unemployment Rate	***15.1%***	***21.2%***	***16.7%***

Table 3.37
Employed Working Age Population in Urban Areas by Sector, 1996
(000s)

Sector	*Total*	*% Subtotal*	*Salaried*	*% Subtotal*	*Other*	*% Subtotal*
Agriculture/Forestry/Fishing	*288,457*	*7.2%*	*126,287*	*4.7%*	*162,170*	*11.9%*
Mining	*51,969*	*1.3%*	*50,111*	*1.9%*	*1,858*	*0.1%*
Manufacturing	*1,006,420*	*24.9%*	*634,082*	*23.7%*	*372,338*	*27.4%*
Electricity/Water	*37,387*	*0.9%*	*35,769*	*1.3%*	*1,618*	*0.1%*
Construction	*334,670*	*8.3%*	*267,481*	*10.0%*	*67,189*	*4.9%*
Services	*2,128,918*	*52.8%*	*1,330,126*	*49.7%*	*798,792*	*58.8%*
Administration	*481,090*	*11.9%*	*481,090*	*18.0%*	*0*	*0.0%*
Other	*39,640*	*1.0%*	*18,547*	*0.7%*	*21,093*	*1.6%*
Total	*4,033,881*	*100.0%*	*2,676,012*	*100.0%*	*1,357,869*	*100.0%*
% Total	*100%*		*66%*		*34%*	

Table 3.38
Change in Urban Employment, 1997

Sector	*Change in No. of Jobs*
Agribusiness	*-71,680*
Manufacturing	*21,838*
Construction	*42,323*
Services	*207,796*
Other	*-10,359*
Total	*189,918*
Percent Total Jobs	*4.7%*

3.2.4 Economic Aspects of Migration

Morocco's rural economy holds a considerable place in national accounting terms due to its important contribution to GDP. Nevertheless, fluctuations in the performance of the rural economy are very important:

- ***1993: -2.1 percent***
- ***1994: +41.4 percent***
- ***1995: -19.7 percent***
- ***1996: +57.6 percent***

These figures are still very global and do not show any detail between individual and large-scale farming activity. The highest agricultural productivity is achieved on the best land, through irrigated agriculture, with crops for export and on large areas.
Here again, investment is the engine of growth and large investments are being made in large-scale agriculture on a regular basis.

This explains why small farms are very threatened by the cycle of drought on the one hand and by little access to credit and savings on the other. Credit and savings are virtually out of reach for small farmers. Three droughts every 10 years have directly forced a large block of rural inhabitants into a cycle of poverty and debt.

In economic terms, the effect is not entirely negative. Productivity increases when land is reassembled in a way that can receive important investments. Migrations to cities simply produce a visible mass of rural inhabitants who participate in creating urban agglomerations. These former rural dwellers obtain work relatively quickly (long periods of unemployment are more likely to involve the young than rural-urban migrants). In cities, migrants obtain access to services, to housing, and to social programs and participate in their own process of moving out of poverty. In economic terms, their contribution may be even more important, since they now participate in a monetary economy, widen the demand for manufactured goods, and increase fixed capital formation by building their own housing. The demand they exert creates situations of scale that are favorable to investments in enterprises.

The arrival of migrants in new, unserviced neighborhoods in a city produces a positive effect in terms of economic growth. This is not the case of the rural dweller who lives off the land in a self-sufficient manner. In the medium term, virtually all of the rural to urban migrants have the ability to integrate themselves into the city, escape from direct poverty, and avoid marginalization.

The Moroccan economy gains considerable advantage from rural to urban migration. Another very important aspect is the migration of Moroccans to foreign countries. Surveys have indicated that a total of some 1 million to 1.6 million Moroccans live and work outside of Morocco. Of these, roughly 80 percent live in Europe and another 15 percent in Arab countries. Each year, some 20 billion DH (1997 figure) in foreign currencies are returned to the Moroccan economy.

In addition, roughly a million Moroccans living and working abroad return every year for vacation. They amount to roughly 40 percent of the overnight tourists.

The migratory system therefore plays an important role in the economic growth of Morocco and particularly in favor of the poorer population groups. While the precise impact of migration is difficult to determine, the importance of its role in terms of national accounts is very clear.

3.2.5 Recent Economic Measures

Continuing at its current rate of growth, Morocco will not experience serious economic and/or social progress, even if there is a some periodic improvement in social indicators.

In order to progressively reduce unemployment, the key challenge facing the Moroccan economy is to increase its annual growth rate to one between 6 and 8 percent, rather than the more normal average of 3 to 4 percent.

As current investment is only around 21 percent of GDP, the rate of investment should be around 30 percent in order to double current growth rates.

The Moroccan government has undertaken a number of major reforms concerning macroeconomic stabilization.

The 1980-1992 period was one of full economic stabilization and structural reform. By 1992, the country had achieved a viable macroeconomic position, liberalized its economy, and established a strong economic base for private sector activity. These results were achieved by a number of actions relating to the macro-economy, financial sector, private sector, and judiciary.

Important progress was achieved in terms of the macroeconomic framework by:

- ***improving the balance of payments to include a current deficit of no more than 1.8 percent of GDP compared to 9 percent in the 1980s;***
- ***lowering the budget deficit from 5.6 percent of the GDP to 3.2 percent;***
- ***reducing the national debt stock from 47 percent of the GDP to 39 percent, the amount of which is actually US$22 trillion;***
- ***improving debt servicing;***
- ***slowing inflation from 3 percent in 1996 to 1 percent in 1997; and***
- ***reducing interest rates to 7.5 percent (based on 1-year treasury bonds).***

Improvements were made to the financial sector by:

- ***lowering the floor to 10 percent for public issues to which banks must subscribe up to 25 percent of their deposits;***
- ***privatizing the development bank;***
- ***enacting new texts to ensure the transparency of bank interest rates;***
- ***restructuring the insurance sector, liberalizing rates, and instituting more prudential ratios; and***
- ***imposing more prudent taxation on credit companies for consumption.***

Private sector improvements included:

- ***implementing important programs to improve the quality of company balance sheets;***
- ***implementing important programs to increase the number of companies receiving financing from the European Union to help increase their competitiveness;***
- ***creating a guarantee fund for small and medium-size industries and the necessary institutional framework in order to receive micro-credits with assistance from USAID;***
- ***reducing energy rates for some enterprises; and***
- ***adopting legislative texts in the near future that will allow private sector entry into water supply, electricity, and telecommunications.***

Judicial conditions related to the economy were improved by creating administrative courts and installing new trade courts.

The recently achieved macroeconomic stability and the low budget deficit should play a significant role in increasing internal savings. A much sounder development of the financial sector has occurred that should be able to support strong economic growth and play an important role in improving the allocation and size of investments. Banks should also be able to achieve a much greater level of liquidity than they were able to generate in the past. The government also has recourse to the financial market rather than simply to the obligatory subscriptions from banks alone. Greater openings to the

exterior have improved the efficiency of production and have opened markets to Moroccan exports. Privatization has brought in new resources to the government and developed capital markets. Most of the negative social aspects of structural adjustment have now been absorbed.

These reforms in Morocco's macroeconomic framework have contributed not only to encouraging investment and making it more efficient, but also to deepening and expanding the economy itself. The results of these reforms can be seen in the key macroeconomic data and indicators presented in Table 3.39.

Table 3.39
Key Macroeconomic Data and Indicators

Data/Indicator	1992	1993	1994	1995	1996	1997
GDP Current Prices (MDH)	242,912	249,223	279,323	281,207	320,920	323,903
Imports of Goods/Nonfactor Services	66,829	67,025	83,518	94,185	93,049	--
Total Resources	309,741	316,248	362,841	375,392	413,969	--
Gross Domestic Expenditure	267,356	271,698	304,645	309,596	345,101	--
Domestic Consumption	210,983	215,723	245,023	249,094	279,102	--
Gross Fixed Investment	54,364	56,719	57,900	62,899	64,744	--
Export of Goods/Nonfactor Services	42,385	44,550	58,196	65,796	68,868	--
Net Income from Abroad	11,940	9,063	10,115	8,053	9,413	--
National Disposable Income	254,852	258,286	289,438	289,260	330,333	--

Although the effects of recent reforms are not as yet perceptible in the available statistics, many indications exist that Morocco is now poised to achieve better, short-term economic performance. The amount of direct foreign investment that hovered around 4 to 5 billion DH between 1992 and 1996 has now reached 11 billion DH in 1998 (an increase of 177 percent). Stock exchange capital, fed by privatization, reached 119 billion DH in 1997 or 37 percent of GDP, without experiencing the high-level risks found in Asiatic countries.

In 1998, economic growth, based on estimates by the IMF, is expected to reach 7.6 percent with a more rapid growth (4 to 5 percent instead of 2 to 4 percent) in non-agricultural sectors. Income is equally expected to increase by 11.7 percent. The balance of payments (capital account) could also show a surplus. This rate of growth will induce a significant improvement in employment. Government strategy therefore shows signs of success in 1998.

In the short term, government is aiming at a growth rate of 8 percent, with a rate of 6 percent for the non-agricultural sectors. It also hopes to improve the actual macroeconomic balance and to achieve a level of private sector investment greater than 20 percent. The lowering of custom tariffs with the European Union and the strengthening of European enterprises, within the monetary framework of the Euro, could prove to be a significant obstacle or drag on monetary corrections.

3.3 Finance and Investment Profile

The following section presents some basic information on finance and investment.

3.3.1 Budgetary Sources

The investment budget has reached 23 percent of state expenses. The state expended an average of 2,500 DH per inhabitant in 1996, of which an average of 625 DH were committed to investment. The respective amounts in U.S. dollars were $253 and $71. Within the investment budget itself, 35 percent goes to the ministries and other agencies that are responsible for development and the provision of facilities across the country, while 13.4 percent goes to ministries involved in social development. To these sums are added the gross savings of local governments, roughly 5 billion DH in 1996, or about 190 DH per person.

Table 3.40
Government Spending my Ministry and Type of Expenditures (budgeted)
(millions DH)

Line Item	*1996-97*	*1997-98*
Recurrent Budget	***50,605***	***57,577***
Investment Budget	***15,406***	***16,789***
% Total Budget	***23%***	***23%***
Total Budget	***66011.3***	***74366***
Expenditure per Capita		
Recurrent Budget	***1,885***	***2,145***
Investment Budget	***574***	***625***
Total Budget	***2,459***	***2,770***
Investment Budget for Infrastructure		
Ministry of the Interior	***689***	***816***
Ministry of Public Works	***2,300***	***2,500***
Ministry of Agriculture	***2,000***	***2,200***
Ministry of Housing	***168***	***185***
Ministry of the Environment	***24***	***30***
Ports	***158***	***-***
Subtotal	***5,339***	***5,731***
% Total Investment Budget	***35%***	***34%***
Investment Budget for Health, Education, and Culture		
Ministry of University Education and Training	***342***	***410***
Ministry of Education	***910***	***1,400***
Ministry of Public Health	***548***	***720***
Ministry of Professional Education	***164***	***164***
Ministry of Cultural Affairs	***32***	***35***
Ministry of Population	***66***	***103***

Subtotal	*2,062*	*2,832*
% Total Investment Budget	*13%*	*17%*

Source: Government Bulletins

The overall data are presented by the National Capital Accounts, which also capture the self-financing of households and enterprises.

Nevertheless, not all of these funds are used exclusively in fixed capital formation.

Table 3.41
Fixed Capital Formation
(millions DH)

Investment	*1992*	*1993*	*1994*	*1995*	*1996*
Tools and Equipment	*26,392*	*28,763*	*29,561*	*33,175*	*32,815*
Buildings	*15,552*	*15,123*	*15,220*	*15,600*	*16,711*
Infrastructure	*9,859*	*10,099*	*10,403*	*11,122*	*12,049*
Landscaping	*1,693*	*1,869*	*1,747*	*1,991*	*2,137*
Cattle	*869*	*865*	*969*	*1,011*	*1,032*
Total	*54,364*	*56,719*	*57,900*	*62,899*	*64,745*
Total per Capita	*2,025*	*2,113*	*2,157*	*2,343*	*2,412*
Public Sector	*6,663*	*8,888*	*8,822*	*9,136*	*7,711*
Public Sector per Capita	*248*	*331*	*329*	*340*	*287*
% Total	*12%*	*16%*	*15%*	*15%*	*12%*

The difference between the amounts indicated by the budget and banking credits on the one hand and the results found in capital accounts on the other primarily represents those funds not directly used for fixed capital formation, but rather, for example, for office materials or unconsumed credits. Real capital formation averaged about 2,400 DH per person.

The state devotes only around 7.7 billion DH to gross fixed capital formation, an amount that averages only about 287 DH per person. The result has been, for example, that over the last five years, no new national roads have been created. In 1993, only 60 kilometers of secondary roads and 249 kilometers of tertiary roads were built. Budget limitations allow only for the basic maintenance of existing roads, a situation that underlines the extent to which the government budget is seriously constrained.

3.3.2 Banking System

The banking system provides another source of funds for fixed capital formation through outstanding payments over the short and medium term. These funds in 1996 can be shown as follows.

Table 3.42
Infrastructure and Housing Lending, 1996
(millions DH)

Term	*Infrastructure*	*Housing*	*Total*
Short Term	*785*	*334*	*1,119*
Medium Term	*10,245*	*2,665*	*12,910*
Long Term	*1,230*	*4,894*	*6,124*
Total	*12,260*	*7,893*	*20,153*

The outstanding payments of such public organizations as FEC are included in the total 20 million DH indicated for payments.

The definition of equipment in banking terminology is somewhat different from that generally used, but includes credits from FEC and some credits from CIH and CDG as well.

The budgetary approach is indispensable to the proper management of the sector and to understanding its various mechanisms. The actual figure to be retained for the amount of financing committed to and consumed by infrastructure was therefore some 7,711 million DH in 1996, or about 287 DH per person. This amount includes the current situation of allocations and those of local government.

A two-pronged approach that includes budgetary and macroeconomic considerations has been used to underline the basic difference between the two visions. On the one hand, 2,500 DH per person is shown, while, on the other hand, 287 DH per person is actually consumed by the public sector for the provision of infrastructure.

These results confirm that investment is the principal variable in Morocco's development strategy and that local finance can be a perceptible way to sustain this strategy. It won't have as much importance on the budgets weighing on the investment as it will on the real destination of budget contributions.

Housing Finance

Banking credits from organizations under the authority of the Ministry of Finance (CIH, Popular Credit Bank, CDG) are subjected to the same rules that apply to banks. Beginning in 1995, banks have substantially increased their financing. Their outstanding loans now amount to 10.5 billion DH, 3 billion DH in new credits each year for all credits combined (promoters, individuals, old markets, and new markets). In 1996, CIH (Table 3.43) provided 1.1 billion DH in credits.

Table 3.43
CIH Lending by Use of Funds, 1996
(billions DH)

Use of Funds	*No. of Loans*	*No. of Units*	*Total Value*	*% Total*
Single-Family & Semi-Communal Housing	*1,194*	*1,712*	*216*	*19%*
Housing Purchase (General Portfolio)	*3,456*	*3,447*	*795*	*71%*
Rental Housing	*7*	*51*	*12*	*1%*
Total General Portfolio	*4,657*	*5,210*	*1,023*	*91%*
Special Portfolio	*889*	*889*	*96*	*9%*
Total	*5,546*	*6,099*	*1,119*	*100%*

Bank financing is therefore relatively small and the government needs to find ways of restructuring its debt, which is now around 2.9 billion DH. CIH currently sustains about 10 percent of the market; its debt is above all an institutional debt.

CIH resources come indirectly from social funds, obligatory reserves of insurance companies, and postal savings passing through CDG, which manages the majority of these funds.

Banks would like to be more active in real estate markets, with the condition that changes be made to improve the legal framework and develop a mortgage market.

The development of the mortgage market is always hindered by:

- ***the absence of regulations controlling the emission of mortgage obligations;***
- ***the non-repeal of the explicit guarantee of the government for obligations of public organizations;***
- ***constraints on the financial sector that dry up long-term resources (technical reserves of insurance, mortgage market, etc.); and***
- ***limited access for private sector banks to long-term resources of obligatory insurance.***

It should be noted that lending rates are always regulated and that banks are obliged avoid certain risks that they would have been able to accept had a higher rate been established.

Legal obstacles related to mortgages exist, most notably the sale of mortgaged goods in case of having to call in any mortgages. Currently, only CIH is in a position to call in mortgages under normal conditions. Other organizations must undergo a long legal process in order to proceed to the sale of a mortgaged property.

New legislation is currently being drafted to develop the mortgage market and to allow banks to provide greater market support.

Municipal Finance

Local governments throughout Morocco have a rather low level of autonomy, due to the considerable amount of central government supervision that has been built into the administrative system. Even though recent laws have opened up significant areas for local initiatives, most municipalities have

shown very little inclination to expand their activities and have not been willing to accept a more dynamic role in their own development. This situation exists in both Aït Melloul and Temsia, the two cities studied in the local-level component of this assessment, where neither municipality has had much influence on the direction and/or quality of urban growth within its boundaries or on the growing areas of unauthorized development around its periphery.

It is interesting to note that both current decentralization and the application of the electoral system at the municipal level have frequently weakened the role of municipalities. The members of the municipal council are not elected by lists, but according to districts and on an individual basis. Because of this electoral approach, municipal solidarity is weak and often creates real difficulties when attempting to adopt the budget. The narrow visions of elected officials frequently take precedence over community solidarity and concerns, a situation that effectively freezes the municipal council's ability to act. The lack of solidarity within municipal councils also increases the difficulty of applying and administering available tax measures as the means of generating much-needed revenues. It makes it very difficult, for example, to re-evaluate the real estate tax for well-to-do neighborhoods in order to help generate funds for the improvement of those for lower-income families.

Other common problems that prevent municipalities from expanding or improving their performance are:

- ***poorly defined boundaries for intervention;***
- ***budgeting and accounting systems that are overly constrained by poorly understood and applied administrative procedures;***
- ***limited means to influence the mobilization of locally generated financing through the collection of taxes, etc.;***
- ***inability to influence the provision of services outside municipality control;***
- ***management of water and electricity services by utility companies or by ONEP and ONE;***
- ***confusing legislation concerning commercial ventures in which municipalities can or cannot participate; and***
- ***opacity of the legal system.***

Government leaders generally recognize the usefulness of multiyear programs. While central authorities would basically favor such a planning approach, the level of solidarity between elected officials in the same municipality is often too inadequate to allow for any medium-term programming. As expected, each elected official is interested in obtaining the maximum amount of benefits for his or her area during the period of his or her electoral mandate. The unavoidable result is a series of small, local projects that follow a patchwork approach to city development rather than any overall structuring of the urban fabric.

Municipalities can use special accounts for specific projects spanning more than one budgeting period or having a more permanent character (utility companies, housing, commercial centers, bus stations, etc.). The creation of such accounts requires authorization from the overseeing central authorities.

While decentralization in Morocco attempts to reinforce financial and budgeting capacities at the municipal level, there are a number of obstacles that essentially prevent any serious advance in these areas. These include:

- ***limited institutional capacities;***

- *insufficient human resources, management, and materials;*
- *overdependence by elected officials on the central government to define local development programs; and*
- *inability of the municipality to make use of local, private sector expertise.*

While municipalities can identify their needs for urban services and facilities (health, education, sanitation, housing, etc.) and transmit them to the regional or national levels, they are not directly responsible for the actual provision of many of these services. In many cases, the provision of these services is the responsibility of offices and agencies of the central government, which have their own priorities and programs.

Local Government Resources

In 1996, the government replaced the previous central government system of subsidizing the amounts needed to balance municipal budgets by a more transparent system involving the assignment of up-front revenues from the Value Added Tax (VAT). This forces municipalities to stick to a balanced budget while providing them with a regular source of revenue.

The VAT represents 20 percent of all government resources. Roughly 30 percent of the funds obtained from the VAT are used for local government finance. This amount provides close to 45 percent of local government resources. It is distributed at the municipality level in the following manner:

- *70 percent is to be used to support project budgets or procurements;*
- *15 percent is dedicated to investments expenses;*
- *10 percent is dedicated to projects between communes; and*
- *5 percent is to be used for unforeseen and extraordinary expenses.*

This change in central government financial support to municipalities is extremely important in terms of creating a predictable stream of financial resources that will allow them to borrow and finance their investments. It forms the basis to which other revenues are added.

These other revenues mainly include taxes that are shared with the central government. They include 75 percent of the product of the urban tax (which represents 2.5 percent of resources), 90 percent of licenses (10.5 percent of their resources), rental value tax (10.5 percent of their resources), and local taxes (20 percent of their resources). There are approximately 37 different local taxes, many of which are fixed at the national level and do not allow municipalities to take full charge of their reception. It should be kept in the mind that a large number of these taxes are very old and basically outdated, having been established long before Morocco became monetarized. The simplification of this fiscal system and the elimination of a whole series of sufficiently small and unprofitable taxes that provide little revenue but are costly to collect should be pursued. Many of these small taxes are also very unpopular, and, for that reason, municipalities make very little effort to collect them.

The resources recovered by municipal services (about 19 percent of their resources) are frequently mixed with other budget items and/or real estate products, which makes them difficult to quantify. Nevertheless, general agreement exists that the cost of municipal services is clearly higher than the incomes that are generated.

The results of this brief analysis show that municipalities have only very little power over their resources. They cannot modify the rates, the level of recovery, or the monitoring of potential con-

tributions. They also do not have the possibility to launch a large program of urban improvement, unless it can generate sufficient resources. Once again, this leads to greater concentration by elected officials on small facilities, such as markets and bus stations, giving them as much attention and importance as the municipal components of national programs for water, electricity, and sanitation.

The Budgetary Process

Local governments are required to present balanced budgets for approval by the Ministry of Interior and the Ministry of Finance. Municipalities are required to establish both operating and investment budgets. The operating budget is approved by the municipality in April, then transmitted to the prefecture and subsequently to the Ministries of Finance and Interior for approval. Municipal budgets also need to obey numerous circulares issued by the Ministries of Finance and Interior. While these circulares may be less constraining since the reform of 1996, they continue to place real limits on the budget.

Between September and November, those municipalities with operating budgets approved by the Ministries of Finance and Interior prepare their investment budgets by using the balance from the operating budget, the unconsumed resources from the previous budget exercise, and any resources that can be obtained from loans.

The operating budget is strictly annual. Any expenses not consumed at the end of the fiscal year are canceled, but can be carried over to the investment budget for the following year. This procedure has numerous consequences, given that the canceled credits often include very real municipal debts that will either have to be regularized in the following budget exercise or their remainders mandated.

It often occurs that an important part of maintenance expenses, particularly those for roads and parks, are left out of the operating budget in order to be able to insert them into the investment budget open for bids. Writing them into the operating budget opens the possibility of having them canceled if they are not committed by the end of the fiscal year.

The Ministry of Finance designates a collector of local government revenues, who plays a double role. On the one hand, this person controls the local budget and on the other certifies each expense before it is made The control may appear to be quite rigorous, but it remains unavoidable as long as local governments cannot ensure this function themselves and are unable to take charge of their own budgetary control. All budget surpluses can be carried over and constitute a savings for the future.

Municipal operating expenses do not leave much room for dynamic management. Nationally, an average of 64 percent of the budget is used for salaries and charges while 18 percent is used for everyday consumption. Recently, however, a growing number of municipalities have shown important savings and much-reduced indebtedness. All of the municipalities combined had a savings capacity of 37 percent in 1996. Theoretically, this means they have the capacity to borrow roughly twice as much as their budgetary volume (or 15 to 20 million DH in 1996) and have a strong capacity to acquire debt. Even greater possibilities exist, since the debt service for all municipalities in interest and capital was only 924 million DH in 1996, barely 20 percent of the balance of gross savings. Gross savings have been increasing, in constant dirhams, at 5 percent per year above inflation and at 15 percent in 1996.

3.4 Institutional Profile

Urban planning in Morocco since the beginning of the 20th century has been guided by European-inspired rules that were first introduced early in the Protectorate period. The planning law of 1914 was

one of the first in the world to combine a forward-looking planning perspective with the operational means to control urban development. Modern urban planning in Morocco since that time has focused mainly on the physical aspects of urban development and design. A more comprehensive planning approach was sought in the 1970s, with the introduction of 20-year master development plans (Schéma Directeur d'Aménagement Urbain [SDAU]). Even these, however, have come to have a physical rather than social or economic orientation. After some 25 years of experimentation and experience with this approach, Morocco now finds itself at a crossroads in terms of urban planning, administration, and management. The combination of slow economic growth with very rapid population growth and urban expansion has hampered the effectiveness of planning efforts and has inadvertently led to a number of major problems in Moroccan cities.

Some of the more obvious problems were recently cited at a brainstorming session held by the newly constituted MATEUH. Major problems were identified as the:

- ***continued rapid growth of substandard housing areas that currently house some 400,000 households and are growing at a rate of more than 25,000 housing units per year;***
- ***emergence of entirely new and unplanned neighborhoods that completely surround Moroccan cities and constrain planned future development;***
- ***growing exploitation of non-renewable natural resources that represent costs to the national economy of more than 8 percent of GDP; and***
- ***persistent spatial imbalance in urban development between coastal areas and the interior of the country.***

As a result of these and other problems, the Moroccan government has now begun to reconsider its current urban planning approach.

3.4.1 Brief Historical Perspective

The first modern planning law and cornerstone of the legal framework for urban planning and development in Morocco was introduced by Lyautey in 1914. At that time, the urban population of the country included about 8 percent of the total population (or less than a few hundred thousand people) living in a total of 12 cities. Today, the urban population includes some 13 million people, or around 51 percent of the total population, living in 248 urban communes and municipalities. The first planning laws were built around a respect for local architecture, opportunities to introduce new planning legislation, fixed planning documents with a heavy emphasis on physical design, and a strong orientation toward regulation and control. Public sector initiatives and projects were expected to be the driving forces behind the implementation of these plans.

The planning law of 1914 governed urban development until 1952, when a new law was passed in response to the emergence of new urban centers and to the need for more up-to-date planning tools. Despite the expressed intention of this law to address these new conditions, it basically reconfirmed and amplified the most important principles of the 1914 legislation. The new law did introduce the use of zoning and also considerably increased the amount of detail to be included in planning documents. Some 40 years later, the law of June 17, 1992 further reinforced these previous planning laws and documents (which included alignment orders, detailed development plans, and zoning plans) and added new requirements of its own. The focus was still placed on controlling rather than stimulating or guiding urban development.

While the nature, speed, and size of urban development in Morocco have changed considerably since the country's independence in the mid-1950s, the legal framework established to deal with this growth

has become even more tedious and restrictive. Although high in technical quality, many of the current regulations do not respond to the real development needs of a large part of Moroccan society. They either present very serious constraints to urban development or are simply ignored. The current inadequacies in these urban plans and regulations concern both their content and the manner in which they are applied.

3.4.2 Policies and Planning Tools

Formal urban development in Morocco is managed, oriented, and organized by urban planning documents and regulations that have been established for very specific applications. These documents include: city master plans (SDAU), detailed development plans (plans d'aménagement), zoning plans (plans de zonage), and simple structure plans for smaller cities and neighborhoods (plans de développement). Both development and future-oriented planning documents (SDAUs), as well as operational documents designed to regulate and control everyday urban development, are included in this group. The government has invested considerable efforts over the past 25 years in developing the necessary planning documents for as many cities as possible.

City Master Plans (SDAUs)

SDAUs have been prepared for 42 cities housing roughly 80 percent of the country's urban population. Beginning with Rabat in the mid-1970s, these plans have been prepared over three identifiable periods. Initial planning efforts involved major cities, such as Rabat, Fez, Maknes, Casablanca, etc. The second effort covered medium-sized cities, such as Khouribga, Beni Mellal, etc. The third effort is now being implemented to include several smaller cities in rapidly developing areas along the coast. The general content of these master plans has included land use, access and placement of major infrastructure, organization of transportation, placement of principal activities and services, and preferential zones for the extension of the city. The plans have included very little, if any, information about economic or social development or about the institutional and financial conditions required for their implementation. Nor has very much thought been given to the impacts and influences of any development taking place around the boundaries of the plan.

Until recently, SDAUs did not have a full legal basis. They were introduced by decree and did not enjoy the same legal authority given to detailed development plans. The slowness of the legal process and concerns about the impact of SDAU orientations on urban land prices were two of the reasons why these documents were slow in obtaining full legal status. Most SDAUs have been used as reference documents for public and private sector investment. They were finally given full legal authority by law number 12-09 of July 12, 1991.

Detailed Development Plans (PA)

The original purpose of Detailed Development Plans was to structure city extensions. The plans were to be used to trace and preserve the rights-of-way for future road networks and to identify the most appropriate areas for gardens and open space. They were also to be used to set necessary building requirements that would promote the health and safety of inhabitants. Early applications expanded the content of these plans to cover the physical and architectural characteristics of properties located along the proposed new roads. The design and implementation of these plans made significant contributions to the character of modern city centers in Morocco. Between 1914 and 1952, a total of 215 detailed plans were approved, along with 340 modifications. Although Detailed Development Plans were originally intended to be only graphic in nature, they were always accompanied in practice by written regulations that elaborated their graphic elements.

Detailed Development Plans have since come to serve as basic land use planning documents for urban development. Their graphic components indicate the location of roads and community facilities, while their written regulations define specific land uses and development standards to be applied. the spatial coverage of these detailed plans has also evolved to include not only areas of urban extension, but also existing built-up areas and city peripheries to a distance of 15 kilometers. Even though peripheral areas can now be planned, they still remain outside the administrative boundaries of the city and any local ability to control development.

Zoning Plans (PZ)

The nature and application of short-term Zoning Plans (plans de zonage) have been outlined in the dahir of 1952 and reaffirmed by the law 12-90 of 1992. The intention of these plans has been to preserve the major orientations of the SDAU during the completion and approval of detailed development plans. The application of Zoning Plans allows urban development to continue during this period. Zoning Plans benefit from accelerated procedures that eliminate public examination, reduce reviews to those of the communal council and provincial commission, and allow the document to be approved simply by order of the government authority charged with town planning. The authority of these plans is limited to a period of two years.

Until recently, the use of Zoning Plans has been very limited. It, too, was originally a graphic document without written regulations. The law 12-90 of 1992, however, required that the Zoning Plan also define land use. In actual practice, these plans have included regulations for minimum plot size, buildable areas, and building heights. Some 26 Zoning Plans were approved during the period between 1952 and 1989.

Development Plans for Small Settlement (PD)

Development Plans for small urban centers were initiated to provide straightforward and rapid planning coverage for the development of this type of settlement. They are to be accompanied by simple regulations that provide the local public with essential information for the development of the town. They should indicate the current and future location of circulation network, administration and other public facilities, buildings related to traditional social life, housing areas, and areas where building should not occur. Some 510 settlements have been provided with this type of plan since the law enacting their use was passed in 1960.

Alignment Orders (OA)

The legal basis for Alignment Orders was established by the dahir of 1916. This law can serve as a complementary document to the SDAU or detailed development plan. The application of Alignment Orders is limited to roads and public places.

Zonal Orientation Plans (POZ)

Zonal Orientation Plans were introduced through a circular by the Prime Minister in 1982. Their purpose has been to outline the development of zones around the periphery of urban areas. Their major preoccupations have been to preserve agricultural land and to prevent uncontrolled development. They have served primarily as conservation documents that oblige landowners to provide infrastructure before subdividing their land. Their impact on development around urban peripheries has been limited.

3.4.3 Legislation, Regulation, and Standards

The slow and incremental changes in laws and regulations, even as Morocco experiences unprecedented urban population growth and change, has been the major characteristic of the regulatory environment for urban development. The dahir of April 16, 1914 provided the initial legislation on which the entire legal planning system has been built. Despite its age, this dahir continues to influence the basic philosophy and approach of the overall planning system. The dahir of July 30, 1952, as well as that of April 1992, confirmed and reinforced the basic orientations of the initial law.

The planning law of 1952 prescribed that land use plans be developed and approved by central government agencies once local authorities had received comments from the public. Local authorities were then given responsibility for implementing plans through their power to issue permits for land subdivision and construction. This basic separation of tasks, and the lack of local input into the preparation of these urban plans, have continued and are two of the main reasons why urban planning documents have generated very little local support.

The Communal Charter of 1976 gave municipal councils the authority to examine planning and development projects and to finance the necessary studies for their design and implementation. The law removed the need for municipal councils to obtain higher authority approval in order to study the development of their cities. Opportunities for municipalities to develop their own strategic planning inputs to the formulation of planning documents should be pursued.

The search for effective planning mechanisms through the development of laws, regulations, and government circulars has been driven by the persistent inability of public authorities to control large-scale, unauthorized development on the peripheries of many cities. This unauthorized type of development is the result of a series of negative factors that include the:

- ***depletion of government land reserves that had been used for low-income housing in the past;***
- ***virtual elimination of land expropriation as a means of obtaining land for public sector housing needs;***
- ***establishment of local taxes on subdivisions that discourage formal private development; and***
- ***obligations of land developers to contribute to the financing of off-site infrastructure in situations where such infrastructure does not exist.***

Regulations for Subdivision Development

The first legislation for land subdivision was written in 1914 and completed in 1933. It was clarified, reinforced, and expanded by the dahir of September 30, 1953, revised by the Chamber of Representatives in 1992, and made into law by the dahir of 1992. Once again, the incremental changes made to this legislation over a period of many years did not alter its basic principles or approach. They simply attempted to adapt the legislation to current situations and problems. The new law also treated the delivery of authorizations, reception and instruction of projects for infrastructure works, sales, rental and division acts, facilities offered to subdividers, and the assignment of ownership.

The law 12-90 of 1992 required that a parcel of land meet three conditions before it could be formally subdivided and sold. The area of land to be subdivided was required by this law to be:

- ***registered or in the final stages of registration;***
- ***located in an area covered by a planning document; and***
- ***connected to networks for primary infrastructure.***

The stringency of these new requirements seriously reduced the amount of land that could be legally subdivided and offered on the market due to the fact that the proportion of unregistered land within many cities has been close to 50 percent of the land that can be developed.

3.4.4 Institutional Organization and Management

Key institutions related to the preparation and implementation of urban plans include MATEUH; the Department of Urban Planning; Urban Agencies; the National Land Agency; and specialized agencies responsible for real estate development, urban financing institutions, and other national-level agencies with an impact on urban planning and development. This section of the report presents only some very basic information about these agencies, which have all been described in much greater detail in other USAID reports.

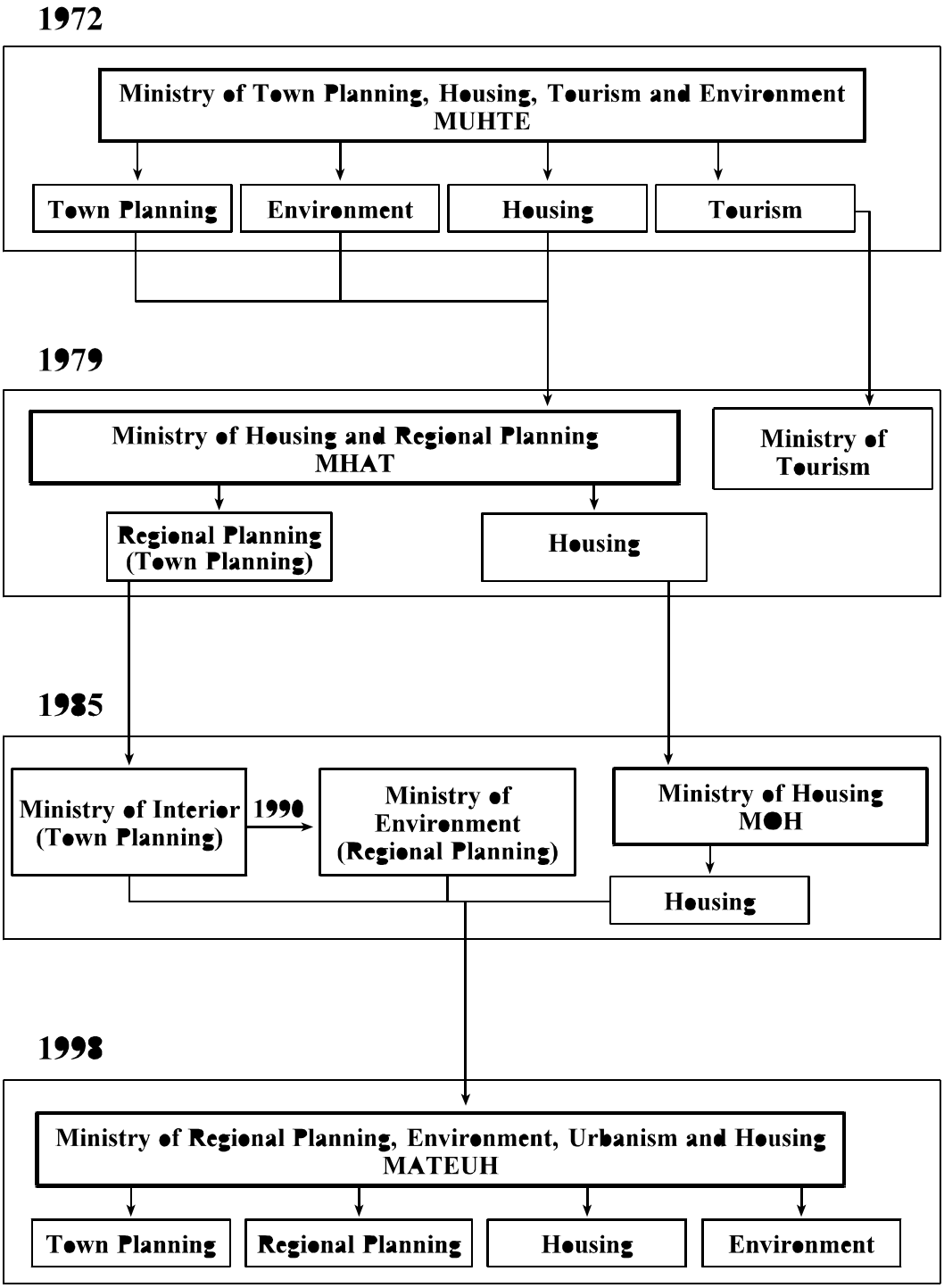
Ministry of Regional Development, Environment, Urban Planning and Housing

The newly constituted MATEUH, with three major departments related to urban planning, regional development, and the environment, is now one of the most important planning-related institutions at the central government level.

Because of the importance traditionally given to public sector housing activity, relatively little attention was given in the past to regional planning and/or to environmental management, when they were all in the same ministry. This situation has clearly changed over the last several years, as both regional planning and environmental management have become much more important to national and regional development while direct government housing activities have been reduced.

The recent restructuring of the government has regrouped key, technical functions for planning and the environment within the former Ministry of Housing. The Ministry is now considering ways to reorganize itself in order to maximize the positive synergy between its different departments and to improve its operations. Each department is expected to maintain a high degree of autonomy. Overall integration will be achieved at the level of vision and action.

Figure 3.6
Institutional Changes in the Government's
Spatial Planning and Housing Approach



The Ministry is also studying potential improvements in urban planning documents and processes that do not require major changes in any laws or regulations. Such improvements might include partial modifications to existing laws, regulations, and circulars or, perhaps more importantly, improvements in the plan preparation and approval process that would work within the current laws. Steps could be taken, for example, to include more up-front local input into the plan-making process and/or to consolidate the approval process into a one-stop presentation and approval session in the field. New and more dynamic roles for the Urban Agencies could also lead to improved planning performance.

Department of Urban Planning

Since its inception, the Department of Urban Planning has always been charged with the legal responsibility for urban planning. The Decree of January 10, 1981 also gave the ministry in which the Department of Urban Planning was located the power to develop urban planning documents, oversee their elaboration, control their conception, follow up the procedure of their instruction, and monitor their implementation. Many of these powers overlap with those given to local authorities. Potential contradictions in the legislation and legal framework resulting from this situation can be reduced by having central agencies and local authorities work more closely together. While technical weaknesses within local authorities have prevented this from happening in the past, there is no reason why they cannot assign certain studies to their own staff or to private consultants under their control. The Urban Agencies also have certain powers that can be used to aid local authorities.

Over the last 20 years, urban planning activities have been placed under the authority of different ministries (either the Ministry of Interior or Ministry of Housing) with very different interests and concerns in regard to urban development. Changes in the location of the department have required new institutional arrangements, new habits and traditions, new institutional memory to be developed, and expenditure of significant resources involved in these moves. While the experience of the department is broadened, the time and effort required to restart activities has been substantial.

Despite these changes and rapid growth in the number of municipalities over the past 20 years, the human resources, finances, budget, and number and quality of professional staff within the Department of Urban Planning have not appreciably changed. Some of the burden of dealing with this new situation has been lessened by the creation of Urban Agencies and the use of private consultants to develop planning documents.

Urban Agencies

Urban Agencies are public establishments with administrative character principally charged with urban planning and development through the elaboration of urban planning documents (SDAUs, zoning plans, detailed development plans, etc.) and the provision of assistance to local communes in their implementation and management. Urban Agencies have also been given the power to carry out land development projects, but do not have the financial resources to purchase any land. Only the Urban Agency of Casablanca has been able to undertake a 200-hectare land development project in partnership with the commune of Dar Bouazza. It has been recommended by the World Bank, however, that Urban Agencies, do not undertake this type of activity.

The first Urban Agency was created in Casablanca under Law 84-188 of October 9, 1984. It was followed by the creation of Urban Agencies in Fez, Agadir, Rabat-Sale, Marrakech, Tangier, and Beni Mellal. The Law 1-93-51 of September 10, 1993, provides the enabling legislation for the creation of Urban Agencies in other parts of the country.

Several Urban Agencies have developed rather negative images with local authorities as a result of their rigid interpretation of planning law and local belief that these agencies are responsible for shortcomings in urban management. Urban Agencies should not be directly involved in urban management functions that include the permitting process, building or infrastructure rehabilitation, or working directly with low-income communities without municipality involvement. These activities are properly the responsibility of the commune. Urban Agencies should be more involved in assisting municipalities and communes in developing urban plans and facilitating their implementation.

National Land Agency

The National Land Agency is one of the divisions of the Department of Land Conservation and Topography. It was created and organized by a simple circular issued by the Prime Minister in 1982. The agency's mission consists of collecting land information by recording open land within urban boundaries and the areas around urban peripheries that belong to the state, local governments, public establishments, Habbous, Guiches, and cooperatives.

Specialized Agencies Responsible for Real Estate Development

Numerous agencies in the form of public or semi-public companies intervene in the development of urban areas. Those essentially involved in land development and/or housing projects for households with limited or relatively moderate incomes include the ERACs, ANHI, and SNEC.

ERAC — Regional Establishments for Development and Construction

ERACs have been established in each of the seven economic regions of the country. They are public establishments with a commercial character. Since 1974, they have been charged with the development and servicing of lands placed at their disposal by the government or local authorities or acquired on the market and with the construction of residential and commercial buildings on behalf of the government, local authorities, or themselves as real estate developers.

ANHI — National Upgrading Agency

ANHI is a public company created by the Ministry of Housing in 1984. It has been charged with the service mission of working to improve substandard housing and preventing its proliferation. The type of projects in which ANHI becomes involved include rehousing of bidonville inhabitants, upgrading underserviced and unauthorized housing, implementing subdivisions aimed at reducing the density of historic neighborhoods, and constructing necessary buildings to rehouse residents of substandard housing.

SNEC — National Company for Public Facilities and Construction

SNEC was created in 1987 as a public company similar to ANHI. It was initially charged with the management of the old FNAET program, previously managed by the Ministry of Housing. For the last several years, with assistance from the World Bank, SNEC has been able to extend its activities to include land development and housing construction, not only on behalf of the central government and/or local authorities, but also on its own behalf as a real estate developer. As of 1994, SNEC had 26 projects for its own account of which three were in the process of completion.

Regies — Water and Electricity Utility Companies

Located in Morocco's major cities and originally focused on water and electricity, these utility companies have been placed under the authority of the Direction Génerale des Collectivités Locales (DGCL) in the Ministry of Interior. Strong World Bank support beginning in the late 1980s has

encouraged these companies to become increasingly involved in the provision of municipal wastewater services. Rapid urban growth has led Morocco's largest Regies to privatize their efforts and/or seek international assistance. The Regie for Greater Casablanca, for example, has granted a concession to the company Lyonnaisse des Eaux from France, while the Regie for Rabat-Salé is in negotiations with a private, Spanish-Portuguese consortium.

Urban Financing Institutions

Several sources of funds and institutions have been created to finance urban development. Only the Municipal Investment Bank (FEC), however, remains active in lending to local authorities for the financing of infrastructure. Originally under the authority of CDG (Caisse de Dépôt et de Gestion), FEC has recently been transformed into an autonomous, general purpose financial institution. Serious consideration is now being given to increasing the scale and flexibility of its interventions in urban development. New ways of involving other private banks in the development of urban infrastructure, as well as means to increase the own-source revenues of local authorities, are also under investigation.

Other National-Level Agencies with Impacts on Urban Planning and Development

Several national-level agencies serve as extensions of ministries responsible for the provision of infrastructure. These agencies play a key role in the provision and management of urban services and in urban development. Some of the more important agencies include the:

- *ONE (Office National d'Electricité), which was created in 1963 and has been assigned with the production, transportation, distribution, and management of electricity production;*
- *ONEP (Office National de l'Eau Potable), which was created in 1972 to manage water source, provide water to utility companies for urban areas, and provide water directly to communes that cannot provide water themselves or through the utility companies;*
- *ONCP (Office National des Chemins de Fer), which was created in 1963 to study, construct, and exploit new railway lines; and*
- *ONPT (Office National des Postes et Télécommunications), which has been assigned the study, realization, and exploitation of telecommunications.*

3.4.5 Implementation and Impact

The implementation and impact of urban planning documents, regulatory systems, and institutional framework can be examined in terms of planning and implementation capacity, effectiveness of urban planning and environmental management, and the adequacy of physical design standards.

Planning and Implementation Capacity

The slowness of the plan approval process and the many and various plans produced by central government agencies or under their supervision make it very difficult to evaluate the adequacy of urban planning capacity throughout the country. It is clear, however, that local-level capacity to implement these plans varies considerably, but, outside of the largest cities, is generally very low. Appointed government officials have mentioned that the major reasons for the high amount of unauthorized development taking place in their areas are the lack of coverage by planning documents and the poor follow through in their implementation by local authorities.

The technical competency among those involved in the production of urban planning documents, whether they be government staff or private consultants, is relatively high. Most planners in Morocco are well trained in general planning methodologies and their application. The contents of the various planning documents are usually the result of a technically strong and substantial knowledge base

concerning urban development in Morocco. The absence of viable land ownership information, however, results in the lack of adequate consideration given to this key aspect of urban development, both in plan preparation and in implementation.

While there is growing competency and capacity in the private sector to produce urban planning documents, central government planning offices have not appreciably increased their professional staff or planning resources, despite the much larger number of urban communes that now require urban plans and regulatory documents. The recent creation of Urban Agencies in several major administrative areas provides hope that this situation will be improved. Until now, the few Urban Agencies in operation have been relatively well funded. As more of these agencies come into being, however, competition for human and financial resources will increase. Urban Agencies have also been much better staffed and equipped than the provincial offices of the Department of Urban Planning, which mainly represents the central government at the local level. Urban planning talent at the regional and local levels also exists through the presence of private practitioners, who could be engaged by local authorities to produce or facilitate certain aspects of their city plans. Availability of local professional expertise is generally related to the size of city and/or proximity to a large city.

As previously mentioned, the rate at which key planning documents have ben produced falls far short of what is required to adequately cover all of the existing municipalities and to keep these planning documents legally up-to-date. In order to cover the current 248 urban communes with planning documents having a 10-year validity, and given the current backlog in these documents, there is a need to formally approve some 36 detailed plans per year over the next several years. Until now, the average annual rate of approval has been only eight.

In most cases, the conception of urban planning documents has been carried out by central government agencies working on behalf of the individual communes. The weak technical capacity of these communes, the lack of staff familiar with urban planning, a basic preference by planners for technical competence over concerns about implementation, and the unwillingness to devote the necessary time to educate elected officials have all contributed to a situation in which local authorities have little ownership of their own spatial development plans.

A greater role by local authorities in the conception of urban planning documents is not excluded by the legislation. Communes should finance the development and updating of these plans. Local-level inputs should not simply be related to plan implementation and urban management, but also to identification and active support of the major elements that go into the plan and are in the city's own best interests. There is a need for greater imagination in the conception of urban plans and a more dynamic process in their implementation and monitoring. This requires a greater integration of disciplines and a more complete use of the available planning tools. Citizen involvement and expression of their rights are extremely important in this regard.

Effectiveness of Urban Planning and Environmental Management

Despite the many difficulties involved in plan preparation and implementation, Morocco's urban planning system has had an undeniable effect in establishing the need and value of urban planning in the minds of urban decision makers at virtually all levels of government.

In addition, the preparation and implementation of various urban planning documents over the past 25 years have been relatively successful in:

- ***identifying necessary extensions for roads, sewers, and water supply;***

- ***providing basic data on the characteristics of urban areas and their inhabitants;***
- ***providing a reference document for the development of legally enforceable, detailed development plans; and***
- ***stimulating general awareness and acceptance of the planning process by local authorities and citizens.***

Major shortcomings or missed opportunities of this process have included the:

- ***inadequate consideration of the areas surrounding cities and their external environments;***
- ***excessive rigidity in identifying locations for public facilities that can penalize certain land owners;***
- ***inflexibility in plan implementation that prevents necessary land use changes in order to respond to actual conditions;***
- ***increased segregation of social classes;***
- ***reinforcement of centralized decision making; and***
- ***inadequate attention to the links between urban growth and economic development.***

Municipalities consider development plans to be too detailed, too rigid, too long to complete, and often too late to implement. A SDAU generally takes between 18 and 24 months to complete. The long time that it takes to prepare these urban planning documents has a strong negative impact on their application and effectiveness. The World Bank, in fact, has concluded that the majority of bottlenecks in urban development are due more to delays in the planning and approval system than to any other concerns.

Since the 1960s, there has also been considerable criticism that the contents of current planning documents do not adequately consider the surrounding areas of a city or its hinterland. One reason why SDAUs were initiated in the 1970s was to respond to this lack of "regional" consideration. The idea of extended planning areas to encompass this concern, however, was never really put into practice.

In general, too much emphasis has been placed on the control of urban development and not enough on its promotion. Greater attention must be given to the role and importance of investments outside public sector projects and to the provision of infrastructure and other incentives that will guide and promote desired private sector development.

Adequacy of Physical Design Standards

Central government agencies are responsible for the establishment of consistent standards for housing and urban infrastructure. This has led to the application of virtually the same standards throughout the country. Standards outlined in Detailed Development Plans, even for low-income housing areas, also tend to be higher than those specified by the Law of 1964 (dahir de l'habitat économique). The combination of these two factors has created a growing gap between the land and housing development standards specified in planning documents and the actual economic capacity of local demand. Greater attention needs to be placed on the development of differential standards that relate more closely to local conditions, respond to people's needs, and can be incrementally approved over time.

The Law of 1964 allows higher densities to be achieved in terms of the number of plots and housing units than can be found in existing practices. It allows, for example, 60 m^2 plots with two-level buildings located along pedestrian ways at least 5 meters wide or along vehicular roads at least 8 meters wide. Most public sector housing projects and detailed development plans have higher standards than those required by the law.

General criticism of detailed development plans has been directed at the very weak land use coefficients and inappropriateness of road and other infrastructure standards. Normally, these should be conceived according to the economic capacities of the target group. A review of the informal rules that guide the development of clandestine housing areas would be useful in determining what low- and moderate-income households believe to be important and what they are willing to pay for.

There is a need to create a new type of zone for low-cost housing within Detailed Development Plans. This can be done by a circular from the ministry in charge of town planning. Extension of the conceptual approach to Zoning Plans, which are characterized by their simplicity and rapidity as planning documents for communes with less than 20,000 inhabitants, should be considered for other possible areas of application.

Infrastructure

Although urban communes have an array of existing laws that permit them to implement infrastructure projects and recover their costs, few, if any, of these communes have developed off-site infrastructure during the last several years. Very few municipalities, in fact, have the financial resources to pre-finance any major infrastructure. They also do not have the technical resources to ensure that the costs of these investments are eventually recovered. Municipality capacity to recover fees and taxes remains very small despite incentives introduced by the new system of revenue sharing obtained through the VAT.

In areas where development is a priority, local authorities may be able to provide incentives in order to encourage landowners to form an association for the development of their land.

It should be kept in mind that urban planning documents and their implementation inevitably create inequalities between landowners concerning the value of their land and its allowable use. There is nothing in the current legislation that will help reduce or remove these inequalities. Nor is any compensation normally paid for road and infrastructure rights-of-way.

Public Facilities

The amount of area allotted to public facilities in detailed development plans varies from roughly 16 to 36 percent. Sizable differences exist, however, between community facilities that are programmed and those that are actually realized. In Casablanca, for example, only 5 percent of the 2,630 hectares programmed for public facilities have actually been used. In typical private sector subdivisions, which have an average area of five hectares and populations of 2,500 people, very little land, if any, is generally reserved for public facilities. Land for public facilities in these private subdivisions is seldom bought due to its high prices.

3.5 Human Settlement Profile

Housing in a broad sense includes not only residential land and housing units, but also all the accompanying infrastructure and facilities related to education, health, recreation, liquid and solid waste, potable water supply, and zones for small-scale economic activity. This section of the report will address these broader aspects of housing by examining their interactions and relationships with urban development.

After a brief presentation of the national settlement system and its evolution over time and space, this section will analyze different urban morphologies within the Moroccan system as well as definitions of related indicators concerning the standard of living (in particular, ratios and service levels for

community facilities, such as education and health, housing quality, connection rates to urban infrastructure, etc.).

All of the core issues related to the housing sector will be addressed. Particular attention will be given to issues that concern various constraints related to formal housing production and to the struggle against substandard housing. Relationships with finance, town planning, and environment will also be examined.

3.5.1 National Settlement System

Settlement Areas in Morocco

The distribution of the population across Morocco's national territory continues to be unbalanced despite recently favorable trends. A strong unbalanced symmetry exists between either side of an imaginary line that runs from the southwest (region of Souss) to the northeast (region of Oujda). The majority of the population, as well as most of the essential agriculture, manufacturing, and tertiary activities, is concentrated to the north and west of this line. The population to the south and east of the line remains widely dispersed and poorly serviced.

Diagnostic studies for the National Territorial Development Plan (SNAT) of 1993 distinguished four main population zones.

- ***Large zones of extreme population concentration** around the perimeters of Greater Rabat and Greater Casablanca, where the respective population densities in 1994 reached some 1,916 and 1,177 persons per square kilometer and the average rate of growth varied between 2 and 3 percent per year. This major population axis runs parallel to the Atlantic Ocean and is very urbanized. It holds close to 32 percent of the total urban population in Morocco and has undergone an important inflow of migration from rural areas. A large part of the country's industrial and tertiary activities are also concentrated along this axis.*
- ***Provinces with high population densities** (i.e., greater than 100 inhabitants per square kilometer) that numbered a total of 16 in 1994. The dynamism of these areas is driven by the energy of their large and medium-size cities. Most of these provinces are located either along the Atlantic coast, such as Agadir, Safi, El Jadida, and Khenitra, or along the Mediterranean coastal area, such as Tangier, Tétouan, Al Hoceima, and Nador. These cities often owe their origins to ocean-related activities (tourism, fishing, maritime transportation, etc.). A third set of provinces with high population densities includes a series of provincial capitals located in the hinterland of the Atlantic coast (including Fez, Meknes, Marrakech, Khouribga, and Beni Mellal). The first three of these provinces contain historical cities, while the origin and development of the last two are linked respectively to mining activities and irrigated agriculture.*
- ***Provinces with moderate population densities** (i.e., between 20 and 100 inhabitants per square kilometer) that numbered about a dozen in 1994. The most important of these provinces includes Settat (86.9 inhabitants/km^2), Ben Slimane (77.3), Essaouira (68.5), and Kelaat Sraghna (67.8). Most of the cities in these provinces are recent creations.*
- ***Weakly populated areas** (i.e., less than 20 inhabitants per square kilometer) that concern mainly the large arid or semiarid provinces of Boujdour, Essamara, Oued Eddahab, Figuig, Tan Tan, Laayoune, Tata, Guelmim, Errachidia, Ouarzazate, and Boulemane. These provinces are characterized by the predominance of desert-like conditions and by the presence of small groups of nomadic herders gradually becoming more sedentary. All of these weakly populated areas combined account for only about 8 percent of the total Moroccan population, even though their total area covers roughly 70 percent of the country (710,850 km^2).*

Figure 3.7
Population Density by Province, 1994

Regional Distribution

The unbalanced distribution of the population by province, as outlined above, is also reflected at the level of the 16 newly defined administrative regions and the 17 major river basins identified by the Department of Hydraulics (Ministry of Equipment). The tables and figures that follow show what the situation was like in 1994.

Table 3.44
Population Distribution by Administrative Region

Region ID	Population (000s)				Surface Km^2	Density Inh./Km^2	Degree Urban	Urban/ Rural (%)
	Urban	Rural	Total	%				
1	1,138	898	2,036	7.8%	11,570	176.0	56%	1.3
2	624	1,001	1,625	6.2%	8,805	184.6	38%	0.6
3	371	1,349	1,720	6.6%	24,155	71.2	22%	0.3
4	976	793	1,769	6.8%	82,820	21.4	55%	1.2
5	913	409	1,322	5.1%	19,795	66.8	69%	2.2
6	966	938	1,904	7.3%	79,210	24.0	51%	1.0
7	1,561	425	1,986	7.6%	9,580	207.3	79%	3.7
8	2,941	153	3,094	11.9%	1,615	1915.8	95%	19.2
9	595	947	1,542	5.9%	16,760	92.0	39%	0.6
10	616	1,177	1,793	6.9%	13,285	135.0	34%	0.5
11	952	1,772	2,724	10.4%	31,160	87.4	35%	0.5
12	449	876	1,325	5.1%	17,125	77.4	34%	0.5
13	896	1,739	2,635	10.1%	70,880	37.2	34%	0.5
14	218	168	386	1.5%	133,730	2.9	56%	1.3
15	161	15	176	0.7%	139,480	1.3	92%	10.7
16	31	6	37	0.1%	50,880	0.7	85%	5.2
Total	13,408	12,666	26,074	100.0%	710,850	36.7	51%	1.1

Region 1: Tangier-Tétouan
Region 2: Gharb-Chrada-Beni Hassen
Region 3: Taza-Al-Hoceime-Taounate
Region 4: East
Region 5: Fez-Boulmane
Region 6: Meknes-Tafilalt
Region 7: Rabat-Sale-Zemmour-Zaer
Region 8: Casablanca
Region 9: Chaouïa-Ouardigha
Region 10: Doukala-Abda
Region 11:Marrakech-Tensift-Al Haouz
Region 12: Tadla-Azilal
Region 13: Souss-Massa-Dra
Region 14: Guelmim-Essemara
Region 15: Laayoune-Boujdour-Sakia El Hamra
Region 16: Oued Eddahab-Lagouira

Figure 3.8
Population Density by Economic/Administrative Region, 1994

The newly defined administrative regions (as well as those that existed before) do not highlight any particular nuances about the country's population distribution. With the exception of the Casablanca region and those comprising the southern provinces, the demographic importance or weight by region is relatively balanced, even though some regions are more urbanized than others.

Three of the administrative regions hold almost a third of the Moroccan population. These regions are 1) Atlantic-Casablanca, 2) Marrakech-Tensift-Al Haouz, and 3) Souss-Massa-Dra. Not surprisingly, the highest density is found in the region of Casablanca (1,916 inhabitants per square kilometer), which is already well advanced in terms of urbanization.

The region of Souss-Massa-Dra, due to its large surface area, has the lowest average density (37 inhabitants per square kilometer) with a level of urbanization that is 34 percent less than the national average of 51 percent in 1994.

Another eight regions have levels of urbanization that exceeded the national average. (Tanger-Tétouan, Oriental, Fez-Boulemane, etc.).

Table 3.45
Population Characteristics by River Basin

River Basin	Population (000s)				Surface Km^2	Density Inh./Km^2	Degree Urban	Urban/ Rural (%)
	Urban	Rural	Total	%				
1	530	188	718	2.8%	2,500	287.2	74%	2.8
2	736	888	1,624	6.2%	12,150	133.7	45%	0.8
3	210	314	524	2.0%	3,800	137.9	40%	0.7
4	827	645	1,472	5.6%	50,000	29.4	56%	1.3
5	2,502	2,996	5,498	21.1%	40,000	137.5	46%	0.8
6	1,267	254	1,521	5.8%	10,750	141.5	83%	5.0
7	3,376	788	4,164	16.0%	10,400	400.4	81%	4.3
8	649	983	1,632	6.3%	11,900	137.1	40%	0.7
9	940	1,816	2,756	10.6%	35,000	78.7	34%	0.5
10	61	72	133	0.5%	50,600	2.6	46%	0.8
11	146	435	581	2.2%	55,600	10.4	25%	0.3
12	231	564	795	3.0%	65,000	12.2	29%	0.4
13	783	1,121	1,904	7.3%	19,350	98.4	41%	0.7
14	75	327	402	1.5%	5,300	75.8	19%	0.2
15	689	1,018	1,707	6.5%	25,000	68.3	40%	0.7
16	154	215	369	1.4%	11,500	32.1	42%	0.7
17	232	42	274	1.1%	302,000	0.9	85%	5.5
Total	13,408	12,666	26,074	100.0%	710,850	36.7	51%	1.1

Basin 1: Tangier
Basin 2: Mediterranean Basins
Basin 3: Loukkos
Basin 4: Moulouya
Basin 5: Sebou
Basin 7: Casablanca Atlantic
Basin 8: Safi Atlantic
Basin 9: Oum Rbia
Basin 10: Guir
Basin 11: Ziz
Basin 13: Tensift
Basin 14: Essouira
Basin 15: Souss-Massa
Basin 16: Guelmin Tiznit
Basin 17: Saquia El

Basin 6: Bou *Basin 12: Dra*

Figure 3.9
Population Density by River Basin, 1994

Figure 3.10
Percentage of Population Living in Urban Areas, 1994

The results are more differentiated in terms of population distribution by river basin. The Sebou River Basin, covering 6 percent of national territory, holds close to 21 percent of the population and is urbanized to a degree that approaches the national average. Population density is approximately 138 residents per square kilometer.

The Atlantic Casablanca Basin, covering only 1 percent of national territory, holds roughly 16 percent of the country's population, has a high degree of urbanization (81 percent), and has a density of roughly 400 inhabitants per square kilometer. The Bou Regreg River Basin, covering 2 percent of the national territory, also has a high degree of urbanization due to its small size and the presence of large cities, such as Rabat and Sale.

The third well-populated river basin concerns Oum Rbia, which covers about 5 percent of national territory, holds close to 11 percent of the population. It has a relatively low degree of urbanization (only 38 percent) and a density of roughly 79 residents per square kilometer.

Except for certain river basins, such as the Atlantic Casablanca (which includes the cities of Casablanca, Essaouira, Safi, etc.), a basic correlation exists between the importance of the river (in terms of its debit and regularity of flow) and the size of the population it supports. The Souss-Massa river basin occupies close to 4 percent of national territory and holds 6.5 percent of the country's total population. Its level of urbanization is only 40 percent, less than the national average.

National Urban Structure

The most important manifestation of the strong urban movement in Morocco during the last few decades has been the rapid increase in the number of urban centers. Within the period of 34 years, the number of cities has tripled and the average size of these cities has increased 37 percent between 1971 and 1994.

Table 3.46
Changes in the National Urban Network

Year	Urban Population X 1000	Degree of Urbanization	Number of Cities	Average Population Per City
1960	3,390	29.2%	105	32,300
1971	5,402	35.1%	173	31,200
1982	8,730	42.8%	233	37,500
1994	13,408	51.4%	314	42,700

It should be noted that the number of urban centers increased by approximately 64 percent between 1960 and 1971, by 35 percent between 1971 and 1982, and by about a third between 1982 and 1994. Following the 1960s, characterized by the creation of many new urban centers and by large-scale rural-urban migration, the continuation of this migration has been clearly responsible for the increases in average city size observed since 1971.

With an average of six new urban centers created each year between 1960 and 1994, urbanization has affected virtually all areas of the country. The process has clearly been stronger, however, in some of these areas.

The rate of urban development has been particularly rapid in regions that previously witnessed little or no urbanization at all, and, as a result, have now begun to experience this phenomenon. As a result, the mountainous areas of the Atlas and the saharian regions to the south have witnessed the greatest emergence of new urban centers, all of which are very small in size, focused on rural activities, and have populations of less than 10,000 people.

Each of the two historically dense regions, the Souss and the Eastern Rif, have seen the emergence of an average of 10 new cities per year since 1971. In the Souss, these new centers have been tightly grouped around the city of Agadir and, in the Eastern Rif, somewhat more dispersed between Nador and Al Hoceima. Several of these satellite centers, most notably those attached to provincial capitals, have seen their populations grow to more than 20,000 residents and as high as 80,000 to 100,000 people in the plain of Souss in 1994 (see regional level analysis). Almost all of the new centers in other regions of historic sedentary agriculture have emerged during the 1960s, the cases of the middle Atlantic plains (Chaouïa, Doukkala, and Abda) and the pre-Rif being good examples.

Regions of large-scale modernized agriculture have registered somewhat different results. While most of centers in the Rharb and Sais were created before 1971, the reverse is true in Tadla, Souss, and Sraghna, where, since the 1970s and 1980s, the development of regional urban structures has been stifled.

Migratory flows, as well as public sector initiatives to promote particular urban centers, have been among the main factors in the differentiated evolution of urban development, both in terms of the speed and location of development.

Parallel to this expansion of urban development throughout most of the country's regions, the national urban structure has almost everywhere become tighter, even relatively dense, particularly in the richer zones of the Moroccan Atlantic. As a result, the urban pyramid is steadily becoming more balanced, due most of all to development since 1982. Since then, many medium-size cities have come to fill the gap that has long existed between large cities, on the one hand, and the variety of rapidly growing smaller ones on the other.

Except for Greater Casablanca and cities with more of 200,000 inhabitants, the average annual growth rates for the remaining urban areas have been close to or greater than the national average. This is particularly true for cities with less than 10,000 inhabitants, whose populations continue to grow very rapidly (around 6 percent per year).

Table 3.47
Changes in Urban Network by Village Size

	1971		1982		1994		
City Size	Number	Average Size	Number	Average Size	Number	Average Size	AAGR
Greater Casablanca	1	1,500,000	1	2,140,000	1	2,734,000	2.6%
More than 200,000 inhabitants	4	320,000	9	337,000	10	476,000	2.9%
100,000 to 200,000 inhabitants	6	154,400	4	133,000	10	137,100	4.0%
50,000 to 100,000 inhabitants	6	61,600	13	69,000	25	68,500	3.9%
20,000 to 50,000 inhabitants	19	30,000	33	33,000	41	31,300	3.9%
10,000 to 20,000 inhabitants	25	14,500	33	13,500	60	13,300	4.7%
Less than 10,000 inhabitants	112	3,400	140	4,200	167	4,500	6.1%
Total	173	31,152	233	37,444	314	42,708	4.0%

AAGR = Average annual growth rate

The basic issue is whether to once again favor (or not) the opening up of small urban centers with all that such a strategy of territorial adjustment requires in terms of investments to absorb newly urbanized populations (housing, socio-collective facilities, urban infrastructure, and services employment, etc.).

In conclusion, it should be kept in mind that by adding to the already strong push of observed and projected urbanization, the continued consolidation of the national urban framework and regional urban groupings, the relative re-balancing of the city pyramid, the establishment of a counterweight to urbanization along the coast by well-supported reinforcement of urbanization in the interior, and the constant administrative and socioeconomic partitioning to keep pace with the increasing number of cities that are becoming closer together and more hierarchical, new situations will develop that will certainly have profound and diverse impacts on the social and economic development of Morocco. These new conditions will determine the various types of socioeconomic flows, the new relationships between cities and their hinterlands, the new regional equilibriums, and the new structuring of space.

Such a vision, however, cannot be achieved without creating negative side-effects and/or aggravating existing crises in different domains (health, education and battle against illiteracy, employment, housing, etc.).

If rapidly growing cities are aware of the diverse problems that result from the lack of control over the urbanization process occurring along their peripheries (notably witnessed by substandard housing development), from the inadequate provision of infrastructure (including roads and liquid waste networks, potable water supply, and electrification) and public facilities (health, education, sport, etc.) in newly developed areas, and finally from the difficulties found in creating new employment, such problems are equally devastating for rural agglomerations that have only recently become urban centers and do not have the necessary basic structures in place to fulfill their new urban functions. One of the causes of this fundamental dilemma is the absence of adequate means to plan and control urban development.

3.5.2 Structure of Urban Areas

The process of urban development in Morocco is very old. Its cities are characterized by considerable diversity in terms of both the manner of their establishment and the different types of neighborhoods

or "urban fabrics" they include. The current situation is exemplified by the virtual explosion of development around urban peripheries, often to the detriment of agricultural land, and by the persistence of unauthorized and under-equipped housing areas.

In addition to historic cities (Fez, Meknes, Azemmour, Sefrou, and Chefchaouen), which were established well before the start of the 20th century, numerous cities have appeared, mainly during the current century, whose location and development have been due to economic activity (commerce, mines, agriculture, etc.), location of national infrastructure (national roads, ports, etc.), or proximity of water resources found in large-scale, natural reservoirs related to mountains, rivers, and oases.

Large cities, for example, are relatively well located in respect to water sources. The Atlas provide water for the urban centers of the northern piedmont or Marrakech, the large rivers of the Atlantic front (Loukkos, Bou Regreg, Sebou) provide water for the corridor between Rabat and Casablanca, while the water tables of Souss and the Atlas runoff provide water for the region of Agadir. Only Tangier (with more than 500,000 inhabitants) has been unable to rely on its natural reservoirs for water. The city was obliged during the drought of 1995 to be supplied on a daily basis by water-carrying boats coming from the region of El Jadida (Jorf Lasfar). The transportation of water over long distances has actually been reduced and concerns only the zone Casablanca-Rabat starting with Oum Rbia.

It is equally important to note the impacts from the development of irrigated agriculture (irrigated perimeters) on urban and housing development. Urbanized areas related to this phenomenon are generally characterized by their location on barren land close to the irrigated areas and along roads and/or rivers. In these areas, dispersed unauthorized housing, to a large extent rural shantytowns, is predominant (as in Rharb, Souss, Trifa, etc.) and often even invades the irrigated areas themselves. Such a situation compromises enormous per hectare investments and causes the national economy to lose, in an irreversible manner, agricultural land with a very high value. At the same time, the type of substandard urban neighborhoods that develop are potential sources of both surface and underground water pollution.

Various forms of human settlement can be distinguished. Human settlements in the form of Moroccan cities have sizes, functions, and areas of influence that are considerably different. A certain number of these cities have a historic past (Fez, Marrakech, Rabat, Sefrou, etc.), while others are more recent creations.

- ***Historic cities often include four major types of development: the historic medina with its high population densities (600 to 1,500 inhabitants per hectare); the "new city" that was built in European style during the period of the Protectorate (1912-1956) and generally includes commercial and administrative buildings, as well as housing areas with densities ranging between 60 and 150 inhabitants per hectare; neighborhoods that have been developed after Independence (1956) and include public and private sector subdivisions with densities varying between 100 and 800 inhabitants per hectare; and finally, spontaneous neighborhoods (bidonvilles and unauthorized, substandard housing) that include poorly developed areas with varying population densities that frequently reach those of the medina in certain bidonvilles.***
- ***More recent cities and those still under formation (Inezgane, Tikioune, Sidi Kacem, Missour, Sidi Allal Bahroui, etc.) essentially involve the last two types of development, with commercial and administrative activities concentrated in their centers.***
- ***Roadside settlements, still generally small in size (Tissa, Bab Berred, Temsia, etc.), are arranged along major highways. They present the most pronounced phenomenon of recent urban development based on the number of centers involved, the visible lack of control over the urbanization***

process, and the chronic problem of inadequate infrastructure. The function of this type of settlement is essentially administrative and commercial. They are generally situated in a central area surrounded by rudimentary housing and poorly developed neighborhoods.

- ***Settlements in remote areas under the form of rural villages (douars, dchars, etc.) also include dispersed housing (or zriba) as the most extreme form of this type of housing. Most often this type of settlement comprises groups of 5 to 30 houses whose evolution is relatively stable, but clearly affected by movements of continuing rural-urban migration. In these areas, housing issues are generally considered to be much less urgent than those related to infrastructure and services. The availability of roads, potable water supply, and electricity remain the basic focus of government attention. When located around urban perimeters, some of these settlements become substandard housing areas to be upgraded and integrated into the city.***

Current urban development most often takes place through the juxtaposition of authorized and unauthorized subdivisions, dispersed along the urban periphery and without any coherent sense of organization. The resulting form of development gives the illusion of the city as a "perpetual construction site," a situation that planning documents (SDAU and detailed development plans when they exist) have not been able to prevent or control.

The problems of urban development in Morocco due to inadequacies in regulations relating to land titling and urban planning have a negative impact not only on housing production, but equally and most of all on the provision of basic infrastructure. The most serious of these inadequacies are those linked to public hygiene and the environment, including potable water supply, wastewater treatment, and the management of solid waste.

Problems that work against the effective application of town planning documents go much deeper than just the institutional framework and its capacities. The context and conditions for the application of the current laws and regulations (despite their imperfections) play an important role in the procedures and standards to be followed. By default or by avoidance, there is a "clandestine" character in the urbanization process that is in fact encouraged by current planning documents.

As recalled by M.A. Lahzem, three conditions must be met in order to meet the regulations currently in force (most notably the laws of 1992) for the subdivision of residential land.

- ***"The land to be subdivided or built upon should be registered." Under the actual situation however, less than 50 percent of the total 102,000 hectares of urban land have been registered. The current pace of registration does not go beyond an average of 680 hectares per year. Compared to the annual needs for newly developed urban land, which reach close to 2,730 hectares, it becomes easy to recognize the magnitude of the effort required. In order to register the 43,700 hectares needed for urban development between 1994 and 2010, it would take more than 64 years at the present rate of registration.***
- ***"The land should be subject to a town planning document." Although a large number of SDAU, PA, and other studies have been elaborated over the past 10 years, they have produced only limited results and have had relatively little real impact on urban development. The administration's desire to cover all urban and rural centers in the country with approved planning documents has been expressed for some time. Nevertheless, the extent to which the country is furnished with these documents remains very inadequate and their elaboration subject to genuine criticism. In fact, a preliminary evaluation recently undertaken by a ministerial department has established that:***
  - ***a number of centers are not covered by a planning document, either in total or in part;***

- ***substantial accumulated delays remain in the process of plan approval and adoption despite new measures introduced by the law of 1992;***
- ***actual procedures and conditions (technical and financial) related to the contracting of urban studies appear to be incompatible with the activities generally solicited to establish town planning documents;***
- ***an insufficient administrative framework exists in both the preparation phase of urban plans and in their implementation and management;***
- ***a necessity exists to introduce specific zoning conditions for the upgrading of substandard neighborhoods and for providing supporting infrastructure and facilities for housing for low-income families; and***
- ***a major problem exists in terms of sites reserved for public facilities in urbanized and urbanizing areas that are not acquired by the concerned administrations within the period of the development plan and consequently lead to future deprivation in terms of these facilities.***

In addition to resolving these particular problems, there is also a need to produce and adopt close to 36 detailed plans per year as compared to an average annual output of only 8 per year over the past 15 years. At the current pace, only about a quarter of the urban communes (which number a total of 248) and delimited centers (which number 130) would be provided with an adopted urban planning document in the continuous manner stipulated by the law.

- ***"Finally, the land should be connected to urban infrastructure networks." The lack of off-site infrastructure can delay urban development for several years. Until now, off-site infrastructure has been the responsibility of the government, either directly through municipal budgets, or indirectly though large-scale subdivision projects implemented by the Ministry of Housing and the agencies under its authority (e.g., ANHI and SNEC). As a result of the strictness of the new laws and regulations of 1992, the limited resources of municipalities, and the reduction in government land available for development, large areas of cities have been inadvertently removed from all forms of urban regulation. Both the utility distribution companies and municipalities are frequently waiting for a hypothetical subdivider to implement off-site infrastructure in their place.***

According to estimates made by FEC, the annual financing requirements for off-site infrastructure (sewerage, water supply, electricity, etc.) are around 9.4 billion DH. In comparison, the current revenues for all local governments in 1996 was less than 11 billion DH, with the amount attributed by FEC around 1.17 billion DH.

The three important points discussed above give an idea of the magnitude of the problems that currently characterize the control and management of Moroccan cities. These problems result in an unorganized use of space and the proliferation of unauthorized, substandard neighborhoods (including bidonvilles). In conclusion, once again citing M.A. Lahzem, "It appears . . . that in order to successfully install a town planning of quality, fully making more dynamic the offer of buildable lands and housing, it is necessary to put in place a total policy that necessitates the collaboration of different departments, municipalities and civil society (associations, individuals etc.)." It is this type of policy that is actually being sought by the different suggestions being made to put into place a global strategy and synergy for housing, urbanism, environment, and regional development.

3.5.3 Public Facilities

Without question, the level of provision of public facilities reveals the dynamics and spatial structuring of urban areas on the one hand and the quality of living conditions for the population and their future socioeconomic conditions on the other. The data furnished in this section of the report are principally

taken from a synthesis report of the National Survey of Public Facilities edited by the Department of Regional Planing (DAT) in the beginning of 1998. The subject completes the demographic analysis presented in Section 3.1 and evaluates certain indicators for the provision of different public facilities, in which education, health, socio-cultural facilities, and sports are mainly included.

The information presented primarily concerns urban areas. It permits the disaggregation of eventual deficits and shortcomings by category of city size and serves to clarify the different levels of hierarchy and related distortions that exist in the national urban structure.

According to the study by DAT, "the underlying and undeniable fact that can be drawn from an analysis of the distribution of public facilities and services based on city size is that these facilities are rather concentrated." In a general manner, most of the facilities are located in the centers of medium- and large-size cities. The proportion of facilities found in smaller cities (less than 20,000 inhabitants), which represent almost 62 percent of all urban centers, barely exceeds 20 percent. The same situation can be observed between medium- and large-size cities. Among this latter group, it is the cities with populations between 100,000 and 200,000 inhabitants (frequently the provincial headquarters) that have the greatest concentrations in the number of public facilities and services.

Education and Training

Both the public and private sectors are involved in the provision of education and training facilities. There are a total 4,231 educational and training establishments in Morocco, of which 14 percent are provided by the private sector. A variety of situations exist that can be broadly illustrated by the following table.

Table 3.48
Educational Facilities by City Size

City Size	Private PS		Public PS		Private HS		Public HS	
(Number of inhabitants)	Number	%	Number	%	Number	%	Number	%
Less than 20,000 inhabitants	16	4%	538	22%	6	3%	314	26%
20,000 to 100,000 inhabitants	71	18%	836	35%	46	21%	374	31%
More than 100,000 inhabitants	301	78%	1039	43%	166	76%	524	43%
Total	388	100%	2413	100%	218	100%	1212	100%

Source: DAT Note: PS= Primary schools; HS = Secondary schools (colleges and high schools)

Given that there is now a total of 227 small urban centers throughout the country, changes in the distribution of public sector primary schools has become increasingly necessary. The situation is made even more serious for the government by the fact that the private sector is only marginally represented in this area of education. Small town primary schools also often serve the neighboring rural localities as well.

For other cities, the distribution of schools appears to be relatively coherent, except that, once again, the private sector has relatively little representation in medium-size cities. Private schools are more easily found in cities with populations greater than 100,000 inhabitants (almost 78 percent of the private

schools). Roughly the same situation exists for secondary schools (college and secondary school). The relatively favorable number of schools in medium- and large-size cities should not obscure the disparities that often exist between neighborhoods within the same city. Peripheral neighborhoods, whether they are authorized or not, are often seriously under-equipped in terms of schools, a problem that is often due to the explosive growth of the neighborhood.

In terms of facilities for professional training, which can provide a more direct means to incorporate young people into the active work force, the training devices instituted by public authorities are very important. Nevertheless, it is the private sector that has found this area of education to be worthy of considerable attention and effort. Its share of these activities reaches almost 64 percent of the total. Similar to other areas of education, it is the large cities that attract the greatest private sector interest and activity.

Health Facilities and Services

First of all, it should be noted that the distribution of public health facilities is not necessarily joined to a systematic organization of cities, given that some of these facilities, even when located inside a city, are intended to serve the neighboring rural population as well. This explains, for example, why the percentage of hospitals located in small cities (38 percent) is almost equal to the percentage in large cities (40 percent). Meanwhile, the small cities (close to 227 centers) suffer from a very clear under-supply of health facilities. More than 150 of these small centers do not have a dispensary. the most basic health service.

Table 3.49
Public Health Facilities by City Size

City Size	Dispensaries		Health Centers		Maternities		Hospitals	
(Number of inhabitants)	Number	%	Number	%	Number	%	Number	%
Less than 20,000 inhabitants	84	31%	121	27%	52	32%	46	38%
20,000 to 100,000 inhabitants	64	23%	176	39%	67	42%	27	22%
More than 100,000 inhabitants	126	46%	150	34%	42	26%	48	40%
Total	274	100%	447	100%	161	100%	121	100%

Source: DAT

When it comes to medium-size cities, they concentrate establishments that provide higher-level health services than dispensaries. They also have doctor's offices for generalists and specialists at their disposal.

According to the DAT report, the private medical sector, unlike its education counterpart, has shown a tendency to fill the gaps in public sector health services or has at least tried to reduce these deficiencies (Table 3.50). General practitioners and pharmacists have shown a growing tendency to locate in small and medium-size communities. The situation in these areas is more deficient in terms of specialized medicine, which is attracted by larger cities.

Table 3.50
Private Doctors by City Size

City Size	Clinics		Specialists		General Practitioners		Pharmacies	
(Number of inhabitants)	Number	%	Number	%	Number	%	Number	%
Less than 20,000 inhabitants	44	23%	3	0%	281	13%	290	12%
20,000 to 100,000 inhabitants	5	3%	138	9%	668	30%	761	32%
More than 100,000 inhabitants	140	74%	1347	91%	1260	57%	1,360	56%
Total	189	100%	1488	100%	2209	100%	2411	100%

Source: DAT, 1998

Socio-Cultural and Sport Facilities

Spatial disparities can also be noted for cultural and sporting facilities as well, based on the category of the facility, the nature of the service, and the type of developer (public or private).

Table 3.51
Socio-Cultural Facilities by City Size

City Size	Women's Centers		Libraries		Cinemas		Theaters	
(Number of inhabitants)	Number	%	Number	%	Number	%	Number	%
Less than 20,000 inhabitants	188	45%	51	23%	11	5%	2	11%
20,000 to 100,000 inhabitants	134	32%	85	38%	73	35%	6	32%
More than 100,000 inhabitants	94	23%	85	38%	125	60%	11	58%
Total	416	100%	221	100%	209	100%	19	100%

Source: DAT, 1998

Small cities monopolize almost half the facilities (45 percent) for both public sector women's centers, which are aimed at improving their general condition, and those aimed at serving young out-of-school girls. The remainder are divided between medium-size cities (32 percent) and large cities (23 percent). Once again, according the DAT report, close to 28 percent of cities do not have facilities of this type.

The spatial distribution of libraries (public sector) and theaters (private sector) are based on the inherent logic of their development. Once again, for example, the distribution of libraries is rather balanced between medium- and large-size cities, while smaller cities suffer from a much lower level of services. A similar situation exists for movie theaters, of which almost 95 percent are located in large and medium-size cities.

For sports stadiums, which are often indicative of the general level of sporting facilities, the inhabitants of small cities have access to a total of 103 stadiums for 227 centers. Those living in the 66 medium-size cities can use 93 stadiums, while those in the 11 large cities have access to 78 stadiums. With the exception of the smaller cities, a certain logic appears to prevail in the distribution of formal sporting facilities. Serious problems arise at the neighborhood level, however, where large deficits can be found. The same general statement can be made for all of the above-mentioned facilities.

In conclusion, despite public sector efforts and certain profitable situations for private sector investment, the level of public facilities within urban areas continues to present striking differences based on the different sizes of cities and also on the quality of neighborhoods within the same city.

3.5.4 Housing

Housing occupies the largest area of land to be developed within the process of urban development. Socioeconomic and cultural differences make this a sector in which the stakes involved among different protagonists are clearly emphasized. The protagonists include land owners or simple would-be house owners, subdivision developers, national- and local-level politicians, financiers and investors, entrepreneurs and business developers, doctors, managers of natural resources, etc. They all have very genuine stakes involved in housing and urban development. A decent built-up housing stock, together with accompanying efforts in education, employment, and health, for example, provides a very important stimulant to sustainable social and economic development.

Here as elsewhere, the sector suffers from the marginalization of a large part of the population. If housing in rural areas, by its own characteristics and mechanisms, does not constitute a priority for government interventions (the priority being given to the provision of infrastructure), housing in urban areas merits such consideration. It has been estimated that between 30 and 35 percent of the urban population in Morocco is suffering from problems related to the accessibility of decent housing located in a healthy urban neighborhood.

Production and Evaluation of Needs

Estimation of the Housing Deficit

Estimates of housing deficits have always been based on approximations. Conceptual ambiguities about the meaning of "deficit" itself and related notions about "precarious" and "decent housing" have made this the case. The lack of precise information on the housing stock in Morocco, its structure, age, evolution of its volume, etc. have only added to the difficulties in determining this deficit.

In the approach adopted for this study, only the housing deficit for urban areas has been taken into account. The notion of deficit is linked to the concepts of precarious and decent housing units, which are difficult to determine for urban areas.

According to the 1994 general census of population and housing (RGPH), the housing deficit in urban areas was estimated to be around 688,000 units (at one household per unit) and distributed as follows:

- *households in precarious housing needing to be re-housed* — *494,000*
- *households to be re-housed in order to reduce overcrowding* — *194,000*

The precarious housing stock not only includes bidonvilles (Figure 3.11), rural housing included within urban perimeters, and inhabited premises built for non-housing uses, but also dilapidated housing in historic fabrics that are in danger of ruin.

Taking into account newly formed households since 1994 and the production of housing units in urban areas during the same period, the current deficit is now more than 700,000 units.

Figure 3.11

Percentage of Households Living in Bidonvilles by Province, 1994

The three principal types of substandard housing in urban areas point out the essential aspects of the housing and infrastructure deficit in Morocco:

- *bidonvilles and other summary housing: involving some 230,000 households representing almost 9.2 percent of urban households;*
- *under-equipped and unauthorized housing: involving roughly 450,000 households representing close to 17.9 percent of urban households; and*
- *historic fabrics: involving some 116,000 households representing close to 4.6 percent of the population.*

Housing Production

According to estimates based on the results of a study on the "Processes of Housing Production in Morocco" undertaken on behalf of the Ministry of Housing, the production of formal housing units has been estimated at close to 76,000 units in 1994. Extrapolated for the year 1997, this level of production should have reached 90,000 units with the following distribution:

- *Moroccan houses 58 percent*
- *apartment units 34 percent*
- *villas 8 percent*

It should be noted that roughly two-thirds of the construction of "Moroccan houses" and villas are built on land subdivided and serviced by the public sector, while two-thirds of the apartment buildings are built on land developed by the private sector.

According to the available data, the unauthorized production of housing provides some 30,000 housing units per year.

Estimation of Annual Needs

The projection of additional housing needs due to demographic growth to the year 2010 (the proposed period for this study) revealed the need for a total of 1,710,000 housing units. This results in a required annual average production of 131,000 units.

Up to the same target year, housing replacement needs for dilapidated housing stock have been estimated at a total of 78,000 units or roughly 6,000 units per year.

Needs related to reduce the existing deficit are estimated at 700,000 units for an annual average of 53,000 units.

Based on this analysis, housing production in urban areas would have to increase to about 190,000 units per year in order to eliminate the actual housing deficit and to satisfy the need for new housing. This annual production is roughly twice the current formal housing production for the country as a whole. The annual amount of land to be developed, just for housing construction, would include roughly 2,500 hectares and 76,000 lots.

Unless the constraints that currently reduce the offer of buildable land and housing units are addressed, it is clear that Morocco's housing sector will not be able to respond to future demand. The bidonvilles and poorly serviced and unauthorized housing will only become more predominant, further aggravating current problems of employment, education, public health and hygiene, and the environment.

Characteristics and Indicators of the Sector

This part of the report discusses a few key indicators drawn from the 1994 census and the publication "Housing in Numbers."

In Urban and Rural Areas

The national housing stock was estimated by the 1994 census to be approximately 4.1 million housing units, with roughly 45 percent located in urban areas. The principal characteristics of this housing stock were:

- ***Type of housing unit — In the countryside, 87 percent of the households lived in rural type housing. In cities, the housing typology was more diversified. More than half of the households (58.5 percent) lived in modern Moroccan style housing; 12.7 percent in traditional Moroccan housing; and the rest in villas, apartment buildings and other types of units;***

Table 3.52
Housing Types (in %)

Type of Housing Unit	*Urban*	*Rural*	*Total*
Traditional Moroccan House	*13.7%*	*3.7%*	*9.4%*
Modern Moroccan House	*58.5%*	*8.6%*	*37.1%*
Villa (or at the level of a villa)	*3.6%*	*0.2%*	*2.1%*
Apartment unit in multi-family building	*10.5%*	*0.3%*	*6.1%*
Room in a facility	*0.5%*	*0.2%*	*0.4%*
Rudimentary house or bidonville unit	*9.2%*	*6.1%*	*7.9%*
Rural housing type	*1.3%*	*79.8%*	*35.0%*
Premise not intended for housing	*1.1%*	*0.3%*	*0.7%*
Other cases	*1.6%*	*0.8%*	*1.3%*
Total	*100.0%*	*100.0%*	*100.0%*

Source: 1994 Census

- ***Housing tenure — In rural areas, 84 percent of the households were owners of their housing units. The proportion of houseowners in urban areas was 52 percent and has increased since 1982 (when it was only 41 percent). The increase in owner-occupied housing in urban areas came at the expense of rental units, the proportion of which in the housing stock declined from 43.3 percent in 1982 to 31.8 percent in 1994.***
- ***Number of rooms per housing unit — Overall, one room was occupied by an average of two people. The actual level of room occupancy was 1.9 persons per room in urban areas. Close to 73 percent of the households lived in housing units that had three rooms or less. The average household size was 5.3 and the degree of cohabitation in terms of households per housing unit was 1.15.***
- ***Number of housing units connected to infrastructure — The study on the "Process of Housing Production in Morocco" revealed information on the low level of infrastructure in unauthorized neighborhoods based on the following indicators:***
  - ***average percentage of units connected to potable water 26 percent***
  - ***average percentage of units connected to a sewer network 43 percent***
  - ***average percentage of units connection to electricity 50 percent***

Particular Case of Migrant Families

The housing characteristics of recent migrants to urban areas (88%) or to the urban periphery (12%) were as follows.

- ***Close to 56 percent of the migrants occupied a Moroccan type of housing unit, while 32 percent lived in bidonvilles or in a rural housing type. The latter group concerned a large number of migrants settled on the urban periphery.***
- ***Housing unit ownership (42 percent of the migrants) was much more prevalent among migrants living on the periphery than among those living within the city itself (62 percent compared to 35 percent) where there is a greater number of renters.***
- ***More than 70 percent of the concerned households lived in housing units with three rooms or more. There was a slightly higher percentage within urban areas (with 75 percent of the migrants) than in the urban periphery (with only 65 percent). Households were concentrated in small housing units that were made even more uncomfortable by the average household size of 6.0 and the widespread deprivation of basic in-house facilities. Roughly 48 percent were without potable water, 22 percent were without toilets, and 41 percent had no electricity.***

Evolution of Housing Strategies

Since its creation in 1972, the Department of Housing has been responsible for the general development of government housing interventions, modes of financing, and modalities of action. Its basic objective has been to promote activities relevant to its mission as a major partner in the housing sector and to render these activities more and more independent of budgetary procedures and constraints. Faced with the magnitude and diversity of current needs, however, it became necessary, as part of the framework of the National Development Plan of 1988-1992, to research and develop contributions from other partners in the sector. Particular attention was placed on the participation of local authorities in reducing the incidence of substandard housing and on the participation of the private sector in developing new housing for low-income families. Until now, both of these anticipated contributions have not been fulfilled.

Among the new strategic housing orientations being applied in Morocco to support low-income housing, however, is the anticipated contracting of $100 million loan from FADES and the Kuwaiti Investment Fund to finance trunk-line urban infrastructure for five large projects (Ben Souda in Fez, Harbil in Marrakech, Bikarran in Agadir, Aviation in Nouaceur, and Sélouane in Nador). Once this infrastructure has been installed, large parcels of land (5 to 10 hectares in size) will be wholesaled to private and public sector housing developers who will then finish on-site infrastructure and build housing affordable to low-income families. In addition to focusing on improved housing delivery in major cities menaced by large amount of substandard housing, project efforts will help increase the ability and sensitivity of local authorities and private developers to improve the delivery of housing for low-income families.

Land Subdivision Policy in Urban Areas

A policy approach to support residential land development was initiated in 1973 and set out to facilitate access to the ownership of plots of serviced land for the largest number of households. The policy was influenced and formed by the existence of abundant government land reserves in urban areas and by pre-financing capacities of both land development and housing programs through beneficiary advances. Beneficiary households showed considerably more interest in obtaining a plot of serviced land on which to build than in a completed housing unit included in a public housing program.

The appropriates structures were put into place to apply the policy. The National Fund for the Purchase and Servicing of Land (FNAET), instituted in 1974, was a program that allowed the mobilization of beneficiary advances and the development of land subdivision and servicing programs throughout the country. The government intermediaries for implementing these programs were the prefecture and provincial delegations of the Department of Housing.

The use of FNAET reached its limits at the end of the 1980s. Its outstanding payments were transferred to the National Agency for Equipment and Construction (SNEC) along with those from the Social Housing Fund (FHS). The FHS was instituted to collect the sales revenues from core housing units built as part of the Social Housing Program (PHS) and Rural Housing Program (PHR).

Parallel to the actions concerning FNAET, the ERACs (Regional Establishments for Development and Construction) also encountered problems in the implementation of their initial programs, including the construction of housing, which led them to change their approach in favor of land development.

A similar preference of the population for the acquisition of serviced building plots continues to be evident today, even though the development of subdivisions for low-income housing has experienced major difficulties based on the inability to mobilize urban lands and on the high cost of land that is privately owned.

The Struggle Against Substandard Housing

Since independence, the struggle against substandard housing has always been a major preoccupation of the government. Initially, it was expressed through two different types of intervention based on the size of bidonville to be upgraded (Program for Small and Medium Size Bidonvilles [PMB] and Urban Development Projects [PDU]). The persistence of the problem and the very visible growth of poorly serviced and unauthorized neighborhoods led the government to intensify its efforts beginning in 1985. At this time, it established a specialized agency (ANHI) to deal with the matter and encouraged other parastatal agencies under the Department of Housing to contribute to the effort as well.

Land development, inscribed within the framework of a global strategy on a city-wide scale, and in general pre-financed by the beneficiaries, was the preferred type of intervention in executing national policy against the proliferation of substandard housing. Pulling back from housing construction programs in favor of upgrading bidonvilles also presented limits due to the cost of improvements, the level of insolvency of the target population, and the insufficiency of institutional resources devoted to the financing of social housing.

Despite the efforts of the government in this area, a renewed outbreak of bidonvilles occurred, caused by the persistence of housing production problems and the inability of urban areas to integrate large numbers of migrants.

Actions in Rural Areas

The government maintained a dynamic housing strategy for rural areas until 1973, when it shifted its preoccupation to urban problems. Until that time, the government's rural housing strategy was not an isolated one, but one that was integrated into the policy framework of hydro-agricultural development of large irrigated areas or perimeters. The desired effect of this policy, which in part involved attempts to replicate the adopted approach to other agricultural regions but without great success, was to encourage the rural population to settle in small urban centers as a means to slow some of the unbalanced rural urban migration to large cities.

Because of structural problems experienced in rural areas, made evident by the droughts of the last several years, virtually all of the ministerial departments increased their interest in urban areas, which, at the broad level of housing, suffer more from inadequate infrastructure (potable water, electricity, access roads, etc.) and facilities (education, health, etc.) than from conditions within the housing unit itself. The notion of substandard housing becomes far more subjective during the time of budgetary recession.

Constraints to the Development of the Sector

As witnessed by the size of the housing deficit and despite the efforts supported by public authorities to energize housing production, the housing sector continues to face very diverse constraints linked to the availability of affordable, serviced land in urban areas, to the standards and costs of building housing units, and to the institutional framework related to housing and urban land development. At the same time, the housing sector in Morocco has at its disposal a number of important strengths or potentials that can, under favorable conditions, increase the pace of housing construction, particularly for low-income families.

Land Development Constraints

Major land development constraints include: overbearing urban regulations, existing fiscal systems, limited public land reserves, and duality of the legal framework.

- *Overbearing Urban Regulations — Morocco has at its disposal an important set of legal instruments for urban planning that was enriched in 1992 by the addition of two new laws on urban planning and land subdivision. These legal instruments often pose problems for both public and private sector land subdividers, especially those having a social objective. They prevent or constrain low-income housing initiatives not only through the lack of detailed development plans, but also through the conception of the documents themselves. These documents very seldom reserve specific areas for social housing to be built by public developers. They often require higher standards for public facilities or impose low land use ratios and wide rights of way for roads. They may also require the implementation of full off-site, trunk line infrastructure as a condition for subdivision approval, and they often add delays in processing subdivision authorizations.*

  The repercussions of these and other constraints (including those related to construction) result in implementation delays and added development costs. Indeed, according to the results of a recent study on residential land development undertaken by the Ministry of Housing, the constitution of formal authorization to subdivide a parcel of land with its various components requires, on the average, a period of one year and expenses representing close to 10 percent of the total cost of developing a typical five-hectare site.

- *Ineffective Fiscal System for Land Development — The current fiscal system intervenes at two important levels. It acts as regulator of the land market, and it imposes specific fees on the development of land subdivisions.*

  The first level (especially the tax on vacant and un-built land) is an incentive to the valorization of land, which, by default, should encourage landowners to put their land on the market. In practice, however, this tax has almost no impact on land retention or speculation due to the weakness of its rates and the limits of their application. Public sector developers, in much the same way as large private sector ones, feel the negative effects of these taxes when negotiating the purchase of private land.

The second level bears on the several taxes and fees (tax on vacant and un-built land, fees imposed by the Land Conservation office, registration, taxes on subdivisions, taxes on companies, value added tax, etc.) that penalize all land subdividers, both public and private, and increase the cost of a housing project, even when it has a social character. The added cost of these taxes and fees is estimated to be 15 to 20 percent of the development cost of a subdivision.

- *Very Limited Public Land Reserves — Faced with rapidly growing demands for land, national and local government land reserves, which permit proactive government interventions in land markets and a measure of control over urbanization, have been virtually expended in major urban centers and their peripheral areas.*

  The National Land Agency has inventoried much of the unused, government-owned land. This inventory has shown, however, that by far the largest amount of the land in the public domain comprise agricultural land or forests that are generally located outside of urban areas.

- *Duality of the Legal Framework for Land — Land ownership is subject, to a large extent, to customary laws (Moulkia) even though major efforts have been made to generalize land administration and registration in order to obtain a more exact and complete knowledge of ownership. Current results of these efforts have been restricted to very limited rural and urban areas.*

  The duality of the land tenure situation has direct consequences on the mobilization of land for urban development and housing. In effect, the acquisition of lands that are not formally registered results in important delays in the development of formal sector housing projects due to the lack of information concerning the consistence, delimitation of ownership, number and identity of owners, etc.

Construction and Real Estate Constraints

Other than the general constraints related to town planning, the fiscal system for property development, and the lack of interest by private developers in the production of low-income housing, the process of housing construction itself suffers from financial difficulties in regard to the high costs of loans and to the very limited financial capacity of most Moroccan households.

The formal financial system contributes barely 20 percent of the financing involved in the production of housing. The majority of financing that is available is geared toward two categories of housing, villas and apartments, which constitute only 29 percent of total housing production, but siphon off 68 percent of formal housing finance provided by the existing financial system.

Otherwise stated, households with low incomes, or generally those with less than 2,500 DH per month, do not benefit from the formal housing finance system. Actual practice of the HBM program has revealed that households with revenues situated between 2,500 and 3,600 DH per month are those that benefit most from HBM type loans.

Private developers have also experienced difficulties in obtaining credit from CIH. The most obvious problems can be described as the:

- *complexity and slowness of instruction procedures related to the formulation of loan requests at the local and regional levels and the absence of decision-making power by agency branch offices at these levels;*
- *lengthy delays in obtaining project agreements that set out the procedures for putting credit into place; and*

- ***exclusiveness of CIH in terms of advantageous conditions related to granting loans for the acquisition of low-cost housing (discounted interest, exoneration of the VAT on the interest rate, etc.). These conditions have now been generalized to commercial banks as well.***

In terms of the HBM program, the number of housing units financed through these loans has rarely exceeded 5,000 units per year. It should also be noted that the current HBM portfolio includes future anomalies and risks as a result of the strong increase in the volume of interest rate discounts, which put a considerable strain on the government's general budget and increase the scarcity of long-term financial resources.

In addition, the subsidies that benefit those acquiring social housing are not personalized. Based on dispositions now in effect, they are largely indirect.

Other Constraints

Two other major constraints involve the role of the water and electricity utility companies and the lack of a viable rental housing market.

- ***Monopolistic Practices by Utility Companies — Companies licensed to provide potable water and electricity can introduce additional constraints to housing and urban development. The administration of potable water distribution and electricity on a quasi-monopolistic basis through ONE and ONEP (and subsequently the regional utility agencies) can provide little motivation to respond to the needs of housing developers. In addition, the intervention costs imposed by these organizations, most notably through fees for penalties and oversight and through the betterment tax, continue to act as constraints despite recent efforts taken by public authorities to reduce them. While parastatal agencies are allowed to contract private companies to undertake the physical work, the utility companies charge penalties and oversight fees that amount to 20% of the cost.***
- ***Lethargy of the Rental Sector — For almost a decade, the rental sector has experienced a serious recession. Between 1988 and 1991, for example, CIH financed an annual average of only about 200 rental housing units. Within the last few years, the numbers of loans have been even lower, with only 48 in 1994 and 60 in 1995. The substantial drop in the number of loans for rental housing is largely due to the continued decline in confidence between owners and renters and to the poor adaptability of legislation characterized by the complexity and slowness of its procedures to the rental sector.***

Potentials of the Housing Sector

Despite the many different and imposing constraints, the housing sector in Morocco is not without a strengths in confronting these obstacles and in reducing the housing crisis both in terms of the level of housing deficits and in the quality of the built environment. Some of the strengths and potentials that should be cited include:

- ***Experiences acquired over the last 30 years in the housing sector in general and in eliminating substandard housing in particular — Numerous forms of intervention have been tested and the most productive are still being applied. Similarly, a wide range of institutions have been put into place to accompany these new strategies. They place greater emphasis on neighborhood restructuring and upgrading than on direct public sector construction of housing;***
- ***Household behavior in acquiring the ownership of land on which to progressively build their housing units — The increase in the proportion of homeowners observed between the censuses of 1982 and 1994 shows that many households have managed to accumulate the necessary savings for housing construction and that the preferred method of acquiring a unit is the owner-builder***

approach. Without these initiatives, the actual deficits in terms of housing and infrastructure would be considerably greater.

- *Strength of the informal housing sector — Part of the activity mentioned above involves the dynamism of the informal or unregulated sector in land and building supply. Despite its unlawful character, this approach provides more than 25 percent of the annual construction of housing units (compared to 40 percent in 1985).*
- *Presence and development of the associative movement (housing cooperatives, neighborhood associations, etc.) that can play a leading role in the production of housing, in the improvement of housing conditions through programs to diminish substandard housing, and in the protection of the environment.*
- *Diversity of formal and informal developers and the emergence of recent interest by private real estate developers to participate in social housing programs for low-income families (the case of 200,000 housing units, etc.).*

Nevertheless, the full extent and application of these strengths and potentials remain to be fully exploited. They are still too often poorly understood or ignored. They would benefit considerably from being formalized and linked to measures undertaken within the framework of re-establishing the housing sector with a strong emphasis on housing for low-income families.

3.6 Urbanization and the Environment

This section discusses the interaction between urbanization and the environment at the national level. After a brief introductory presentation of geophysical conditions, the section highlights existing environmental conditions, with emphasis on air, water, and land pollution. The bilateral relationship between urbanization and the environment is elucidated through an analysis of the water supply, liquid waste management, solid waste management, and energy sectors.

3.6.1 Geophysical Profile

Geography

Located in the northwestern corner of Africa, Morocco spans 710,850 square kilometers within the triangle of the Sahara desert, the Atlantic Ocean, and the Mediterranean Sea. The country is made up of three types of regions: mountainous areas, coastal plains, and arid zones.

Mountains cover about 15 percent of the total area of the country. The Rif mountains, which run along the Mediterranean coast from the Straight of Gibraltar to the Moulouya River valley, are steeper, lower, and more heavily forested than the three Atlas ranges to the south (Figure 3.12). The Middle Atlas mountains are made up of a series of plateaus that increase in height as they progress from southwest to northeast. Farther south, the Upper Atlas extend for 700 kilometers from the Atlantic Ocean to the eastern plateaus; with a number of peaks over 3,500 meters, including Mount Toubkal at 4,165 m. This is North Africa's highest mountain range. Finally, the arid Lower Atlas (or "Anti-Atlas") mountains run from the Atlantic coast along the Draâ River valley, connecting to the Upper Atlas at Mount Siroua.

Figure 3.12
Topography and Watersheds

Protected from the Sahara by the Atlas ranges, the fertile coastal plains are located along the Atlantic and Mediterranean coasts, extending from Martil in the north to Massa in the south. A series of plateaus varying in altitude from 200 to 1,500 meters form a transitional area between the coastal plains and the mountain ranges.

The arid zones include the high plateaus in the eastern part of the country as well as the pre-Saharan and Saharan areas to the south. The desert plateaus, buttes, and depressions that predominate in the arid zones are surfaced with loose rocks or, less commonly, with sand dunes. Punctuated by very few oases, the arid zones cover more than half the surface area of the country.

Geology

While Morocco's Precambrian platform, part of the African plate, rises to the surface in some parts of the country, more recent sedimentary formations, such as the eastern plateaus and the mountain ranges, are predominant. The Atlas mountains are mostly made up of limestone, dolomite, and marl; while the first two types of rocks are hard and therefore not prone to erosion, the softer marl — like the Triassic clay and schist found in some high valleys — tends to erode, leading to silting of natural and man-made water bodies. The coastal plains are characterized by alluvial and clay soils, while the major sand deposits are located along the coast and in the arid desert areas.

Climate

Much of Morocco enjoys a "Mediterranean" climate, with rainy winters and a hot dry summer. However, a number of factors — altitude, latitude, orientation toward and/or proximity to the desert or the sea — combine to produce many different microclimates and great country-wide variations in temperature and precipitation. Average annual temperatures vary from 11.1°C in Ifrane to 19.9°C in Laâyoune. Although the average annual variation is fairly low — ranging from 5.5°C in Essaouira to 15.5°C in Oujda — the variation between maximum and minimum temperatures is much more robust, with many areas posting temperatures well above 40°C, and in the Sahara up to 60°C.

Average annual precipitation levels also vary widely from region to region. While the pre-Saharan Draâ River basin benefits from only about 25 millimeters yearly, annual average precipitation levels in the central and western Rif mountains reach almost 2,000 mm. Most of the northern half of Morocco receives less than 500 mm per year; the arid zones to the east and south record less than 300 mm annually. There is also great variation on an annual basis, with years of heavy rain often punctuated by droughts. The most recent droughts occurred in 1981-84, 1986-87, 1991-93, and 1944-95.

Hydrology

Of the 150 billion cubic meters of precipitation that Morocco receives on an average year, 121 billion m^3 is lost to evaporation, leaving 30 billion m^3 in the national hydrological system. Approximately 21 billion m^3, or two-thirds of this water, can be mobilized each year for human use — 16 billion m^3 from surface water (rivers, streams, lakes), and 4 billion m^3 from groundwater. Morocco currently mobilizes 11 billion m^3 of surface water and 2.7 billion m^3 of groundwater, for an annual total of 13.7 billion m^3, or 69 percent of total potential resources.

Groundwater resources are distributed throughout 80 aquifers, half of which are close to the surface and therefore easily accessible. More than 40 percent of all groundwater resources are located under the Moulouya, Tensift, and Sebou river basins, with most of the remainder found north of the Atlas Mountains. Less than 5 percent of groundwater resources are located in the arid eastern and southern regions.

Over half of the country's surface water resources are found in the contiguous Sebou, Tangiers, and Mediterranean river basins. The Oum Er Rbia, which flows west out of the Atlas mountains to the Atlantic, accounts for another 20 percent of total surface water. Not surprisingly, surface water is generally more abundant in the areas receiving greater rainfall, namely the northern and western parts of the country. Rivers in the east and south are dry during most of the year.

3.6.2 Status of the Environment

This section presents a brief description of the current status of the three main components of the natural environment: air, water, and land. Quantitative data on levels of pollution are provided where available. Although sources of pollution are discussed, the detailed analysis of the interaction between development activities and the environment is found in Section 3.5.3 below.

Air

Although perhaps the least polluted of the three natural media, air suffers from urban and industrial pollution, especially in the more populated coastal areas. Vehicle exhaust constitutes probably the greatest threat to air quality. In 1994, the 1,185 million vehicles in circulation in Morocco consumed 384,381 metric tons of gasoline and 1.92 million tons of diesel fuel (Chemonics, 1995). The combustion of this fuel results in the release of carbon dioxide, sulfur dioxide, nitrous oxide, lead, and other chemicals that contribute to the greenhouse effect and/or pose health hazards. Lead emissions alone amount to about 100 metric tons annually.

Industrial emissions also contribute to erosion of air quality. Cement factories release 4 million tons of carbon dioxide annually, representing 77 percent of total industrial gas production (SWEEP-Scandiaconsult, 1992). In addition to carbon-based gases, the following pollutants are also emitted by industrial establishments:

- *sulfur dioxide — 180,000 tons/year, of which 165,000 by sulfuric acid producers*
- *fluoride gases — 204,000 tons/year, by phosphoric acid producers*
- *nitrous oxides — 7,000 tons/year, by fertilizer producers*
- *dust — tons/year, mostly by cement factories*

Given the low settlement densities in much of the country and the concentration of industry in a few major cities, vehicular and industrial pollution of the air does not represent a major problem on a national scale. However, air quality has been substantially eroded in a few large urban areas, such as Casablanca, Rabat, Tangier, and Marrakech.

Water

Water pollution in Morocco is essentially the result of dumping untreated urban and industrial waste into the surface and groundwater network. Urban wastewater, when collected through a piped sewerage system, concentrates pollution at a smaller number of discharge points, thereby exacerbating water pollution in the absence of treatment (see Section 3.5.3 for a discussion of sanitation service levels and coverage). Organic pollution from urban wastewater was estimated in 1992 as 200,000 tons of biological oxygen demand (BOD), 45,000 tons of nitrates, and 11,000 tons of phosphates. This waste was dumped primarily into rivers by inland towns and into the sea by coastal settlements.

Industrial pollution of waterways, while lower in volume than urban waste, contributes a broader range of toxic substances to the national water system. Table 3.53 presents a quantitative snapshot of industrial pollutants by sector. In addition to the substantial organic waste (BOD, COD, etc.) produced

by sugar refineries, canneries, paper producers, and slaughterhouses, the textile and chemical sectors discharge significant amounts of phosphates, sulfur, and chrome. Other toxic heavy metals, such as zinc, nickel, and cadmium, are dumped into waterways by the metal processors. Producers of pesticides, especially phosphoric acid, are responsible for 90 percent of the 15,000 tons of uranium discharged annually.

Agricultural pollution of waterways is caused by fertilizer and pesticide use. Fertilizers account for 14,000 tons of nitrogen and 8,000 tons of phosphorus that enter the hydrological system each year, primarily through irrigation networks. Fifty tons of pesticides also find their way into waterways each year. Generally used in the irrigated zones adjacent to major rivers, these agricultural pollutants tend to seep through the ground and enter the country's main aquifers below. While this poses substantial health hazards, the overall contribution of the agricultural sector to water pollution is less than that of the urban sector, as shown in Table 3.53.

Table 3.53
Sectoral Breakdown of Main Water Pollutants

	BOD		Nitrates		Phosphates	
Sector	Tons/yr	% Total	Tons/yr	% Total	Tons/yr	% Total
Urban	200,000	84%	45,000	73%	11,000	57%
Industrial	37,000	16%	2,500	4%	300	2%
Agricultural	-	0%	14,000	23%	8,000	41%
Total	237,000	100%	61,500	100%	19,300	100%

Table 3.54
Industrial Pollutants by Sector

Total	Chemical		Textiles/Leather		Food Processing		
Pollutant	Tons/yr	% Total	Tons/yr	% Total	Tons/yr	% Total	Tons/yr
BOD	4,300	7%	15,400	27%	38,100	66%	57,800
COD	12,600	14%	-	0%	80,000	86%	92,600
Nitrogen	1,780	54%	-	0%	1,500	46%	3,280
Phosphate*	54,851	100%	-	0%	190	0%	55,041
Fluoride	37,700	100%	-	0%	-	0%	37,700
Chloride	1,900	100%	-	0%	-	0%	1,900
Uranium	13,500	100%	-	0%	-	0%	13,500
Chrome	-	0%	111	100%	-	0%	111
Sulfur	-	0%	140	100%	-	0%	140

BOD = Biological Oxygen Demand
COD = Chemical Oxygen Demand
**includes P205*

Note: does not include metal processing sector since volumes are small.

Source: Développement industriel écologiquement durable au Maroc, Ministry of Commerce, Industry and Handicrafts

Figure 3.13
Major Areas of Irrigated Agricultural

While agriculture contributes 41 percent of all phosphate pollution, it is responsible for less than one-quarter of nitrate pollution and does not increase biological oxygen demand. Industry's share of water pollution ranges from 16 percent of BOD to only 2 percent of phosphates. Urban waste, on the other hand, accounts for over half of pollution in all three categories, and reaches 85 percent of BOD. This table shows that urbanization and the discharge of associated wastes is by far the main cause of ongoing degradation of water quality in Morocco.

Land

The two major threats to land quality are solid waste disposal and erosion. The large majority of household waste is produced in urban centers; only 2 percent of rural household waste is collected. Total urban household waste is estimated at 10,000 tons/day. Household waste produced in Casablanca alone is between 2,000 and 2,300 tons/day, or almost 30% of total national production. Due to its high organic content (65 percent by weight) and high degree of moisture (65-70 percent by weight), much of this household waste would biodegrade and return to the ecosystem with minimal environmental damage under suitable waste management conditions. However, the large majority of household waste collected in Moroccan cities is deposited in unsanitary dumpsites. Without proper drainage facilities, leachate enters the soil and in many cases seeps through to groundwater.

Industrial waste, estimated at 80,000 tons per year, also pollutes the ground as it leaks through to underground water supplies. Pesticides and fertilizers used in agriculture deposit phosphorus, nitrogen, and other toxic substances into the soil.

Soil erosion in Morocco is caused by a combination of natural and man-made factors. As discussed in the geophysical profile above, the soft nature of the soil in many regions, in combination with low moisture and organic content, facilitates erosion of the soil when subjected to water runoff and high winds. At the same time, the practice of cultivating ever steeper slopes in the upper reaches of river basins, itself a reaction to increasingly limited economic opportunities in rural areas, is exacerbating soil erosion. (Some Rif farmers cultivate slopes so steep that they have to attach themselves to a safety cord while working the land.) The cereal crops often grown on steep land make the problem worse because of their limited ability to hold soil in place. Other causes of erosion include overgrazing of pastures and deforestation. It is estimated that 31,000 hectares of land are deforested annually in Morocco, mostly to provide domestic firewood (United Nations, 1998). Wind erosion also contributes, although it hasn't been quantified. The extent of soil erosion is estimated as follows:

- ***2,000 tons per kilometer per year (t/km^2/yr) in the Rif basins;***
- ***1,000-2,000 t/km^2/yr in the upper Sebou river basin;***
- ***500-1,000 t/km^2/yr in the Middle and Upper Atlas (rivers contributing to the Oum Rbia and Souss, such as the Tessaout, the Issen, and the Beni El Ouidane); and***
- ***less than 500 t/km^2/yr in the rest of the country.***

Erosion leads to silting of reservoirs, reduced dam capacity, and lower water supply for urban, industrial, and agricultural uses. Of 20 million hectares upstream of existing or planned dams, about 5 million are prone to erosion. The combination of erosion and deforestation in the eastern and southern regions of the country is allowing the Sahara to claim an ever greater share of Morocco's surface area. Although no exact figures are available, the advance of the desert was sufficiently alarming for the Government of Morocco (GOM) to formulate in 1986, with the assistance of the World Health Organization, a national plan for the fight against desertification.

Excess salinity is also deteriorating the quality of some irrigated agricultural lands. A UNDP-financed study estimated in 1992 that about 500,000 hectares of farm land, most of it fed by the primary irrigation system, suffers from excess salt and water.

3.6.3 Development-Environment Interactions

The GOM's water sector policy, as evidenced by the DGH strategy and the 1995 Water Law, is essentially to:

- *increase the water quality and coverage in urban areas (portion of total households with private/ shared connections to rise to 90 percent in 2000 and 98 percent in 2020);*
- *increase coverage and quality in rural areas; and*
- *bring revenues in line with costs of developing new water sources by creating new Basin Agencies, which will manage bulk water resources within each watershed.*

Legal and Regulatory Framework for Water Resources Management

The legal and regulatory framework for water resources management in Morocco is defined primarily by Water Law No. 10-95, put into effect by Dahir No. 1-95-154 of 16 August 1995. This relatively new piece of legislation builds on earlier water laws dating from the French colonial period, including the Dahir of 1 July 1914, which in conjunction with additional decrees in 1919 and 1925, consolidated all water resources into the public water domain. The Water Law No. 10-95 ("Water Law") incorporates many of the provisions of the earlier texts into a comprehensive framework. This framework includes the following main components:

- *definition of the public water domain;*
- *definition of private rights to water in the public domain;*
- *restrictions on the use of public water resources;*
- *tools for planning the development of watersheds, including institutional arrangements and specific planning mechanisms;*
- *general conditions on the use of public water resources;*
- *measures to control water pollution; and*
- *conditions for the use of water for food and beverage production, medical purposes, and agriculture.*

The aspects of the Water Law that distinguish it from earlier water resource laws and from most colonial and traditional legal frameworks are those related to the planning and development of water resources. Chapter IV clearly sets out a package of institutional arrangements and tools which, although insufficient in themselves to guarantee implementation of a good water resources management, do establish a solid and well-conceived legal basis for future activities in the sector.

The main institutional actors in the Water Law are the Water and Climate Council and the basin agencies. The Water and Climate Council is responsible for overall guidance of national water and climate policy. The Council includes representatives of the central government, the basin agencies, ONEP, ONE, the ORMVAs, water users, and provincial and prefectoral assemblies. The Council exercises its guidance functions through the review of national and regional water resources development plans and strategies.

The basin agencies, as set out by the Water Law, will be responsible for the development and management of water resources on the level of a particular watershed. Although policy development

will remain a national function carried out by the water directorate (Direction Générale de l'Hydraulique, or DGH) under the Ministry of Public Works, the creation of the basin agencies will essentially deconcentrate, if not decentralize, water resources management in Morocco. The specific responsibilities of the new basin agencies will include the following tasks:

- ***preparation and implementation of integrated water resources development plans;***
- ***issue of authorizations and concessions for use of public water resources;***
- ***provision of financing and technical assistance to individuals or organizations for water pollution prevention and/or development of water resources;***
- ***monitoring of the quantity and quality of public water resources;***
- ***preparation of water resources mobilization and management studies;***
- ***management and supervision of the use of water resources; and***
- ***construction of flood prevention works.***

The basin agencies are to be managed by a board of directors composed of representatives of the central government, concerned sector-specific parastatals, and water users. The agencies will have the authority to borrow funding from the central government and/or other public or private sector entities; to collect charges and fees from water users; and to levy and collect fines from water polluters.

The tools defined in the Water Law include the integrated water resources development plans and the national water plan. The integrated development plans, to be prepared for each watershed by the basin agencies, will forecast water supply and demand; identify measures required to mobilize water of appropriate quantity and quality; determine distribution rules and mechanisms for distribution of water between users; and determine water quality targets. The national plan will build on the findings of the integrated watershed plans in order to define national priorities and a timeline for water resources mobilization; specify economic, financial, regulatory and institutional mechanisms for implementation; and define the conditions for transfer of water between river basins.

The main strength of the Water Law is that it has been built on the foundations of internationally accepted principles of good water resources management.

- ***First, it incorporates stakeholder participation. Intermediate and end users of water, in the form of urban water distributors, agricultural water distributors, elected officials, and trade associations, participate in the policy development and plan preparation at the levels of both the Water and Climate Council and the basin agencies' boards of directors.***
- ***Second, the geographical unit is the river basin. The choice of the river basin, or watershed, as the jurisdictional area of the basin agency creates a distinct and easily identifiable water supply which facilitates the water management process.***
- ***Third, the law gets the incentives right. The principles of "user pays" and "polluter pays" are applied so that all users must buy the water they use and pay for the water pollution they create. This will not only tend to discourage pollution, but will also generate funding for improvements to water mobilization, flood prevention, and/or water pollution prevention facilities.***

The shortcomings of the law are not so much inherent in the text as they are related to its implementation. First, the law does not specify key parameters for implementation. Although it is to be expected that the law will be made implementable through a subsequent series of regulatory decrees, in the case of the Water Law the "unspecified" is particularly broad. The Law remains silent on the issues of how the prices for water for different uses are to be determined, how the amount of fines for

water pollution are to be determined, what types of charges can be levied by the basin agencies, etc. In addition, in order to implement the pollution prevention component of the law, it will first be necessary to draft and pass into law a set of wastewater effluent standards, which currently do not exist in Morocco.

The problem of insufficient implementing regulations is not limited to decrees specifically designed for execution of the Water Law. The underdeveloped regulatory framework for the conduct of parastatals and other public sector entities is also a constraint to the extent it will limit the financial autonomy of the basin agencies. Although the agencies are qualified in the law as being "financially autonomous," in fact the authorities and responsibilities of parastatals with respect to access to funding, borrowing on the private market, on-lending to other parties, etc., are not adequately defined by the current legislation. As a result, parastatals, like municipalities, often require approval from line agencies in order to carry out relatively routine financial transactions. The underdeveloped set of rules for public finance limits the financial autonomy of parastatals and inhibits any effort to decentralize or devolve decision-making authority away from the central government.

Second, the law assumes that Moroccan water users are capable of responding adequately to the incentives, that is, that water users can and will take action to limit pollution and therefore reduce the payments that the law obliges them to make. In the urban sector, however, this is not the case. Most municipal governments lack the technical skills, management capacity, and funding required to build, extend, and maintain sewage collection and treatment systems, for example. And even where the capacity exists, it is unlikely that households could bear the full cost of service provision. So the challenge will be: how to bridge the gap between the principles in the law and the reality of local government capacity? Or more specifically, what types of financial and institutional arrangements can bring to the towns the funding and know-how required to develop and maintain wastewater systems? These questions will be addressed following a discussion of the institutional setup of the water sector.

Institutional Setup

The water sector, already spread out horizontally over a number of different ministries, is slowly decentralizing to the regional and, to a lesser extent, the local level.

As noted above, while the Water and Climate Council has responsibility for reviewing and approving national water policy, the National Environmental Council oversees environmental policy development and coordinates the activities of different actors in the environmental and water sectors.

The author of national water policy, as concerns planning, development, management and preservation of water resources, is the Direction Générale de l'Hydraulique of the Ministry of Public Works. The DGH is also in charge of the construction and maintenance of major water works. Also under the Ministry of Public Works is the National Water Board (ONEP), which is responsible for mobilization and treatment of potable water, and water distribution in small and medium-sized cities.

The Ministry of the Interior is the line agency for the "Régies Autonomes," parastatals that distribute potable water in many large cities and municipalities, many of which continue to provide their own drinking water. The Ministry also presides over special water commissions and prosecutes water-related offenses.

The Ministry of Agriculture contributes to the elaboration of water policy and carries out operations related to irrigation. The Ministry of the Environment formulates the National Environmental Protection Strategy, contributes to water resources plan preparation, and supervises the implementation

of water and water pollution regulations. While the Ministry of Health monitors drinking water quality and protects against water-borne diseases, the Office National de l'Electricité (ONE) of the Ministry of Energy and Mines builds and operates hydroelectric production facilities.

At the regional level, the Directions Regionales de l'Hydraulique (DRH), operating under the auspices of the DGH, carry out studies, prepare plans, and build and operate major water works within their respective watersheds. The Offices Régionaux de Mise en Valeur Agricole are responsible for construction and operation of irrigation works, while the Regional Environmental Councils maintain a database on environmental issues within their jurisdiction and implement measures identified by the National Environmental Council.

Local governments were given the authority and responsibility for providing urban services, including potable water, under the 1976 Charte Communale. In practice, local governments have exercised and continue to exercise a number of options for meeting this challenge. Governments located in large agglomerations have tended to form Régies Autonomes responsible for drinking water distribution for the entire metropolitan area. While many small and medium-sized cities have turned the management of their water systems over to ONEP, others continue to provide potable water to their residents.

ONEP's mandate has undergone a slow but steady expansion over the last 20 years. Initially responsible for potable water production, this parastatal has assumed responsibility for water distribution in a number of small and medium-sized towns since the 1970s. Faced with a growing gap between water and wastewater coverage without a corresponding increase in municipal capacity, ONEP began in the 1990s to intervene in the liquid waste sector in towns which requested its assistance. More recently, ONEP has been made the lead agency in the PAGER program, which seeks to improve the availability and quality of drinking water in rural areas.

While the Charte Communale set in motion a process of devolution of water distribution responsibility, water resources management in Morocco remains highly centralized in theory and in practice. The Water Law is, however, now beginning to apply centrifugal pressure to the system. If fully implemented, most of the responsibility for overall management of the water sector, including financing, construction, and management of works, as well as allocation of water resources between different competing uses, would be devolved to the regional level (watershed, as distinct from administrative regions and economic regions). Essentially, the basin agencies would replace the existing Directions Régionales de l'Hydraulique and take on an expanded mandate as overarching managers of the water sector.

In fact, the pace of this process has been very slow to date. No basin agencies have been created since the Water Law was passed three years ago. All of the DRH are still in operation, with no expansion of their mandate. The first basin agency slated for creation will operate in the Oum Er Rbia basin. The DGH is currently in the process of negotiating the new water tariffs with the various users. The tariff for hydroelectricity has already been set and approved; the tariff for agricultural use has been set (through negotiation with ORMVA) and is now in process of approval; the negotiations required to set the urban water tariff have not yet begun. Therefore, two decrees are still required for creation of basin agency.

The DGH, which has responsibility for creating the basin agencies which will implement the Water Law, says that there is no definitive implementation schedule for creation of the agencies or for any other aspects of the implementation process. The DGH estimates that all agencies will be created within five years. Given the time required to put the first one into place, this seems optimistic, even after taking into account the acceleration that should result from repetition of the same process. The absence of

regulatory decrees specifying key parameters of the creation and operation of the basin agencies will undoubtedly hinder and draw out the process. Additional decrees required are specified in Section 6.4.5 below.

Water Supply

Rising water demand for urban, industrial, and agricultural uses is putting more and more pressure on existing water resources. Table 3.55 presents GOM estimates of water requirements by type of use. Agriculture has been and will continue to be the single largest user, consuming almost 10,000 million cubic meters (Mm^3) in 1998 and about 13,500 Mm^3 by the year 2020. While urban and industrial uses are more modest at 2,000 Mm^3 today, they are increasing more rapidly than any other use. Urban uses will rise to 3,805 Mm^3 annually by 2020, representing a threefold increase as compared to the 56 percent increase for irrigation. In relative terms, therefore, urban water uses will put more pressure on national water resources over the next 20 years than any other use.

Table 3.55
Water Requirements by Type of Use (1990, 1998, and 2020)

	1990		1998		2020		Change, 1990-2020	% Change,
Use	Mm^3	% Total	Mm^3	% Total	Mm^3	% Total	Mm^3	1990-2020
Urban/Industrial	1,271	12%	2,036	17%	3,805	22%	2,534	199%
Irrigation	8,694	85%	9,693	81%	13,565	78%	4,871	56%
Hydroelectric	230	2%	230	2%	-	0%	(230)	-100%
Total	10,195	100%	11,958	100%	17,370	100%	7,175	70%

Source: FAO, 1996; Ministry of Public Works, 1988.

The GOM plans to mobilize additional water to respond to the requirement outlined above. Through increased mobilization of groundwater and particularly surface water, the Direction générale de l'hydraulique plans to increase annual supply to 17,010 Mm^3, roughly equivalent to need. Surface water mobilization is expected to rise from 9,028 Mm^3 today to 13,940 Mm^3 in 2020, while tapped groundwater is anticipated to increase from 2,700 Mm^3 to 3,070 Mm^3 over the same period. At that point, the country will be using 85 percent of its total potential water sources. As population is expected to continue to grow, albeit more slowly, in the following period, maintaining equilibrium between water supply and demand will have to rely more and more on demand management. In fact, this orientation is already clear in the global analysis presented here, since the GOM's projections for water use for irrigation assume a 23 percent decrease in annual water consumption per hectare (10,400 m^3/ha in 2020 versus 13,400 m^3/ha in 1990), to be achieved through more efficient irrigation technologies (e.g., drip irrigation). While a short-term strategy can still concentrate primarily on increased water mobilization, over the long and perhaps even medium term, the focus will have to shift to demand management if Morocco is to continue to achieve equilibrium in the water sector.

Another technique to ensure satisfaction of water needs is transfer between river basins and between watersheds. Part of the surplus expected in the Oum Er Rbia watershed, for example, is transferred to the Tensift and Bou Regreg watersheds. The Loukkos (Tangier) and Moulouya basins are also net

water importers. Other basins achieve self-sufficiency only through consumption of part of their non-renewable groundwater (e.g., Souss-Massa), which is obviously unsustainable and also highlights the future importance of demand management.

Potable water service varies widely between urban and rural areas. Only 30 percent of rural households have access to drinking water, primarily from groundwater sources. The government is attempting to address this imbalance through the PAGER[1] program, which aims at increasing coverage levels through more intensive use of local groundwater resources. This will require increased monitoring of well water quality: while the large majority of urban areas enjoy potable water of acceptable physical, chemical, and bacteriological quality, groundwater in rural areas is often contaminated by unhygienic domestic waste disposal.

On the other hand, the Direction générale de l'hydraulique reports that 100 percent of urban households have access to drinking water, 80 percent of them from individual or shared water connections. Coverage increased from 53 percent in 1972 to 62 percent in 1981. The rest of the urban population is served by standposts. Despite this high overall coverage, great variation exists between urban areas. Connection rates range from 0 percent in some small towns to nearly 100 percent in selected large and medium-sized cities.

Municipalities have and continue to exercise a number of institutional options for potable water provision. In most of the large agglomerations, municipalities have chosen to create financially semi-autonomous parastatals known as régies autonomes. The régies are responsible for water and wastewater services throughout the metropolitan area, have the authority to seek financing from public and private sources, and have direct relations (including billing) with end users. Many régies are currently considering privatizing their operations under a concession arrangement. A French company has been issued a concession for Greater Casablanca and a Spanish-Portuguese consortium will take over water and wastewater services in Rabat-Sale in the near future.

Many small and medium-sized urban municipalities (communes urbaines) have transferred water supply responsibility to ONEP, the national water board. Beginning in the 1970s, ONEP expanded its water production and treatment mandate by offering water distribution services to interested municipalities. Although ONEP has taken over a significant number of small and medium-sized cities throughout Morocco, the effectiveness of this initiative has been undermined by falling demand on the part of local governments in the late 1980s and 1990s. Many municipalities continue to see the cost of service extension under ONEP as prohibitive. While the "national solidarity tax" on the water tariff helped generate some financing for system extension and rehabilitation, additional funds had to be provided by local governments. Rather than impose unpopular new or increased taxes, many local administrations have opted for the status quo, retaining responsibility for a less complete but less expensive water supply system.

Liquid Waste Management

Under dahir No. 1-76-583 of 30 September 1976, municipalities are responsible for the construction, operation, and maintenance of liquid waste facilities. Since the human and financial resources requirements of this undertaking far exceed those available to most Moroccan towns, however, progress has been slow, and the liquid waste sector continues to lag far behind the water supply sector. As a

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[1] Programme d'approvisionnement groupe en eau potable des populations rurales.

result, line ministries and their agencies are playing an increasingly important role in meeting wastewater requirements in small and medium-sized cities.

All cities above 20,000 population and 85 percent of towns between 5,000 and 20,000 population have piped wastewater collection networks. According to a recent ONEP study of 45 representative small and medium-sized cities,[2] about 40 percent of piped networks combine wastewater and stormwater. Approximately 13 percent are separated systems, while 22 percent are hybrids. Despite the prevalence of collection networks, however, the connection rates are relatively low. It was estimated in 1993 that 69 percent of urban households are connected. As shown in Table 3.56, rates vary greatly by town size, dropping to under 50 percent for cities under 50,000 population and to around 40 percent for towns in the 5,000 to 20,000 population range.

Table 3.56
Water and Wastewater Connection Coverage by Town Size, 1993

Town Size (Population)	Water Connection Coverage	Wastewater Connection Coverage	Difference
<5000	56%	13%	43%
5,000-10,000	74%	38%	36%
10,000-20,000	66%	41%	25%
20,000-50,000	74%	48%	26%
50,000-100,000	75%	79%	-4%

Low coverage is not the only problem afflicting liquid waste collection systems. In the ONEP sample, between 15 and 25 percent of the network length of individual towns requires rehabilitation. This is largely the result of the decay of the older, generally combined, portions of the network, which were installed during the colonial period. The prevalence of combined networks in cities of all sizes poses a health hazard during periods of heavy rainfall, when stormwater and wastewater alike overflow onto city streets and into water courses.

Service levels and coverage for wastewater treatment are even lower than for collection. The large majority of wastewater collected through urban networks is dumped untreated into the natural environment, mostly into rivers and the Atlantic ocean. A 1993 survey of 21 of the 51 wastewater treatment plants in the country showed that:

- ***42 percent are functional;***
- ***0 percent recover costs;***
- ***86 percent have inadequately trained staff; and***
- ***80 percent selected inappropriate treatment type.***

ONEP, *L'assainissement dans les petits centres*.

On the other hand, the plants showed good results in reduction of organic matter (activated sludge plants) and in reduction of pathogens (lagoons).[3] The GOM is promoting the use of activated sludge treatment plants in urban areas. Lagoon plants are also used.

Currently about 50 percent of wastewater is reused for irrigation. However, most of it is untreated, especially around some interior towns, such as Marrakech, Fez, and Meknes, posing health hazards for local residents (see Section 6.4).

Municipal expenditures on wastewater are low. On average, only 1-3 percent of municipal investment budgets goes to wastewater, and only 1 percent of operation and maintenance budgets. Liquid waste tariffs are only charged in Agadir and Casablanca. In Agadir, RAMSA liquid waste tariffs per cubic meter of treated water increase with volume and are almost the same as the water tariff. Collection of wastewater tariffs is carried out through the water bill. Rabat will soon introduce a wastewater tariff once the private Spanish-Portuguese consortium takes over service delivery responsibility. Tangier and Fez are currently in the process of implementing wastewater tariffs.

The government's objectives in the liquid waste sector are to increase coverages (including piped collective systems and individual systems) to 90 percent of the population connected to the piped water system by 2000, 100 percent by 2020. To achieve these objectives, the GOM has formulated the following strategies:

Technical

- ***Rehabilitate and extend existing sewerage systems in areas served by the piped water distribution network***
- ***Treat wastewater prior to disposal or reuse***
- ***Maximize reuse of treated water for irrigation and/or other uses***
- ***Use low-cost, low-maintenance technologies for wastewater treatment***
- ***Use sewerage master plans to define needs and formulate appropriate responses***

Institutional

- ***Give municipalities the option to delegate wastewater collection and treatment to a Régie Autonome Intercommunale, ONEP, a private firm, or a joint venture entity through a concession, lease contract, service contract, or other arrangement***
- ***Prepare a National Sewerage Master Plan to guide future extension and enhancement of service provision***
- ***Create Basin Agencies responsible for managing, in each watershed, the intake and distribution of water for all uses***

Financial

- ***Entities responsible for wastewater collection and treatment must operate on a cost recovery basis, including investment costs; this requires increasing user charges within the existing tariff framework***

ONEP, *Assainissement liquide: diagnostic des stations d'épuration au Maroc*, 1993.

- ***Entities responsible for wastewater collection and treatment must rationalize their management system in order to increase efficiency and promote financial self-sufficiency***

Institutional options for improving the performance of the liquid waste sector are discussed in Section 6.4.

Solid Waste Management

Per capita urban solid waste production is approximately 0.8 kilograms per person per day. On this basis, daily production of urban waste in Morocco was estimated in 1992 to be 10,180 metric tons per day, or 3,715,700 tons annually.[4] Production is concentrated in large cities; in 1989, Casablanca alone produced 2,000 to 3,500 tons per day, or 25 percent of total urban waste production.

Municipal waste is 65 to 70 percent organic material, with the remainder composed of paper (18-20 percent) and various other substances, including plastic, sand, stone, glass, and metal (2 percent). Water content by weight varies between 60 and 70 percent. This composition produces high net density and a high degree of fermentation.

According to the Direction de la Statistique, collection coverage averages 85 in urban areas, with significant variation from town to town. Coverage is estimated at 100 percent in Casablanca and Rabat, 85 percent in El Jadida, and 40 percent in Tangier. Shantytowns and "clandestine" informal settlements benefit from inadequate or no solid waste collection. The collection rate in rural areas is estimated at 2 percent.

Urban waste disposal is more problematic than collection. Only one-third of collected urban waste is recycled or disposed of in sanitary landfills. The remainder is deposited into uncontrolled dumpsites lacking perimeter fencing, leachate management, and regular maintenance, such as compost or earth layering. Only four cities — Rabat, Sale, Casablanca, and Agadir — have solid waste treatment plants.

Most recycling takes place informally at a number of different points along the collection and disposal chain. The strong market for plastics and paper incites households to sort their garbage before it leaves the home. Municipal waste collectors sell recyclable materials to transporters before the trucks reach the town dump. Garbage pickers in all major cities and many smaller ones make a living through sorting and sale of plastic, paper, and metal. It is estimated that 50 percent of plastic products are currently recycled; the largest facility is in Casablanca. Close to 100 percent of paper is recycled nationally. As much as 80 percent of metals are recycled in large cities, while recovery is much lower in small and medium-sized towns. Glass recycling is primarily limited to container reuse.

Industrial waste production is estimated at 800,000 tons annually. Seventy-two percent of industrial waste is composed of sludge, sand, or scrap metal, while 22 percent is classified as byproducts, 5 percent raw materials, and 1 percent miscellaneous.[5] The food packaging and processing sector produces 63 percent of the organic waste, of which two-thirds originates in sugar refineries.

Ministère de l'Environnement, *Stratégie nationale pour la protection de l'environnement et le développement durable*, 1994.

Ministry of Commerce, Trade and Industry, 1996.

While collection rates for industrial waste is close to 100 percent, most of it is deposited in uncontrolled municipal dumpsites (5 percent) or uncontrolled industrial dumpsites (72 percent) close to the industrial plants. About 23 percent of industrial wastes are recycled.

The National Strategy for Environmental Protection and Sustainable Development (Ministry of Environment, 1994) lays out benchmarks for improvement of solid waste management. In the urban waste subsector, the strategy aims for:

- *90 percent of waste to be collected by 2005 and 95 percent by 2020;*
- *5 percent of waste to be recycled by 2005 and 10 percent by 2020;*
- *25 percent of collected waste to be deposited in sanitary landfills by 2005 and 100 percent by 2020.*

The strategy identifies household sorting and limiting household waste produced as two ways to achieve theses objectives.

In the Ministry of Environment's "Guidelines for National-Level Policies and Actions for Solid Waste Management," improved solid waste management is to be attained through a three-stage process:

- *Stage 1: Expansion of collection coverage*
- *Stage 2: Implementation of sanitary disposal practices*
- *Stage 3: Waste minimization and recycling*

Central to all three stages are clarification of institutional responsibilities through reform of the legal and regulatory framework, enhancing human and financial resources available to municipal technical departments, and increasing private sector participation in service delivery.

Energy

The energy sector is characterized by large-scale use of traditional energy sources and heavy dependence on imported sources for urban and industrial use. Of the total energy consumption of 485.9 million gigajoules in 1994, 340.2 million gigajoules — or 70 percent — was from commercial energy sources (electricity and coal), with the remaining 30 percent from the traditional sources (charcoal and firewood). This modern/traditional split roughly aligns with urban/rural divisions; electrification of urban areas is near 100 percent, while rural areas, with only 20 percent households electrified, rely primarily on charcoal and firewood for cooking and heating.

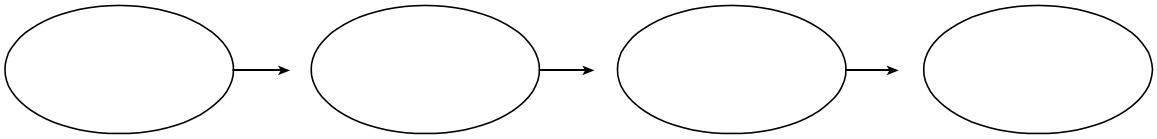
In the modern sector, 74 percent of electrical energy is produced from petroleum, 24 percent from coal, and 2 percent from hydroelectricity (down from 8 percent in 1980 largely as a result of droughts in the 1990s). Domestically produced commercial energy sources amount to only 25.2 GJ per person per year, which represents only 8 percent of total consumption. Morocco has to import petroleum to cover the deficit, making the economy heavily dependent on foreign energy sources.

In rural areas the ongoing reliance on traditional energy sources continues to be a major cause of deforestation and results in the erosion and desertification discussed in Section 3.6.2 above.

GOM strategy in the energy sector is (1) to increase the efficiency of energy production, conversion, transportation, and consumption in the modern urban and industrial sectors, and (2) to expand electricity service into rural areas to relieve pressure on the natural environment, promote social development, and limit rural-urban migration.

3.7 National-Level Synthesis

Many of the observations set forth in the preceding sectorally defined chapters are related in a causal chain of events that captures much of the urbanization process in Morocco. This chain can be summarized as follows.



The first step involves perception by rural residents of greater economic opportunity in urban areas. While this perception exists continuously among some portion of the rural community, it varies from year to year. The perceived "opportunity differential" is particularly great in drought years, when lack of rainfall causes poor crop yields, thereby depressing the entire rural economy. As noted in Section 3.6, drought is a common condition, occurring on average about one out of every three years. National agricultural production since 1992 has been as follows:

1992 . . . . . -37%
1993 . . . . . -5%
1994 . . . . . 61%
1995 . . . . . -44%
1996 . . . . . 79%

These wild swings in primary sector production correlate strongly with change in rainfall, and in the years when a lack of rain results in poor harvests, rural residents look to cities for an alternative source of livelihood. As the Department of Regional Development study (1991) showed, more than two-thirds of rural-urban migrant households moved in search of economic opportunity. While population figures for urban areas are not available on a year-by-year basis, it is likely that city populations swell particularly during drought years, when the shrinking rural economy increases the opportunity differential between rural and urban areas.

The link between rural output and rural-urban migration is also supported indirectly by the weak performance of non-agricultural sectors. As indicated in Section 3.2, annual average change in non-agricultural production, a proxy for the urban economy, declined from 6.1 percent in the 1970s to 3.8 percent in the 1980s to 2.2 percent in the 1990s. At the same time, annual average flows of rural-urban migrants rose from 113,000 people in the 1970s to 193,000 between 1982 and 1994. While annual average urban growth rates registered a decrease from 2.61 percent in the 1970s to 1.56 percent in the mid-1990s (in part reflecting lower rates of rural-urban migration), the drop in percentage terms is less than two-thirds of the corresponding decrease in non-agricultural production. And as noted, in absolute terms, migration to urban areas increased as the performance of the urban economy slowed. This inverse correlation suggests that the cause of the perceived opportunity differential was influenced less by the growth of the urban economy than by the shrinking of the agricultural sector.

As migrants arrive in urban areas, they necessarily affect the quality and pace of urban growth. The specific impact depends on a number of actors, values, and conditions discussed in preceding sections and recalled below.

- ***The "built-your-own-house" mindset.*** ***Moroccans have demonstrated a consistent cultural preference for building and inhabiting their own dwelling units. Rural-urban migrants, although initially often***

lacking the resources to pursue this option, are no exception. Finances permitting, they will often opt to acquire a vacant plot and build their own house.

- ***Inflexible planning laws and practice.*** *The regulatory framework requires new housing development to be on registered land, covered by a planning document, and served by basic infrastructure. Largely as a result of a dysfunctional land registration system and a slow and cumbersome planning process, most urban land whose market price is affordable to migrants fails to satisfy these conditions.*
- ***Improving main roads.*** *The quality of intercity roads has improved substantially in recent decades, which, by creating the possibility of shorter and easier daily commutes into town, increases the feasibility of settling in peripheral areas adjacent to main roads.*

These factors all encourage the proliferation of unauthorized development at the urban periphery. The costs imposed by the legal and regulatory framework act as a disincentive to the production of serviced residential plots and drive subdividers to unauthorized production. With decreasing availability of rental housing, the options open to the migrant are rental or purchase of subdivided units in inner city areas (medinas, bidonvilles) or, more commonly, land purchase in peripheral areas developed by informal subdividers.[6] *The peripheral option, which corresponds to the cultural preference for self-building, is made easier by the improving condition of regional roads.*

With the proliferation of unauthorized development comes a drop in coverage and service levels of municipal infrastructure and services. Unauthorized neighborhoods are by definition developed without the consent of local authorities and therefore do not benefit from a coordinated approach to advance infrastructure provision. Rather, subdivisions more or less modeled after formal developments are laid out by subdividers, who sell off plots of land to households. Until critical densities are reached, infrastructure providers are often unwilling to extend networks, and the neighborhoods remain unserviced or underserviced with respect to roads, water, wastewater, electricity, and solid waste collection. The low coverage rates in peripheral areas lower city-wide infrastructure coverage. And the increased burden placed on existing systems results in deterioration and corresponding drops in service levels.

A number of factors are contributing to changes over time in the pace and direction of urbanization. First, more and more rural residents are migrating to small and medium-sized towns rather than to large cities. Although migrants from distant rural areas still tend to target the largest cities, the most typical pattern of migration since 1982 involves movement from a rural hinterland to a regional capital or other nearby medium-sized town. Given the fact that the urban management capacity of these towns is lower than that of their larger counterparts, this shift may complicate, at least in the short run, any integrated public sector attempt to improve the quality of urban growth resulting from rural-urban migration.

Second, the capacity of the urban economy to absorb rural migrants is decreasing. The boom in industry and services in the 1970s has proved unsustainable, and real growth rates in those sectors have been dropping for 20 years. This reduces the capacity of cities to provide jobs for migrants. Ironically, the Department of Regional Development survey (1991) indicated that the unemployment rate is lower among recent migrants than it is among other urban residents. While this finding confirms the good

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In many cases, new migrants initially either rent or share their housing, then enter the peripheral land market once they have accumulated the necessary funding.

judgment of migrants with respect to the opportunity differential between rural and urban areas, it raises questions of whether the migrants found new jobs and, if so, how they were created.

Third, the public service gap between urban and rural areas is widening. Potable water connection rates, for example, have been climbing steadily in urban areas since 1970, but have remained more static in rural ones. Solid waste collection services now benefit 85 percent of the urban population, while still available to only 2 percent of rural residents. Education and health facilities remain concentrated in large and medium-sized towns. As this gap widens, life in the cities becomes relatively more attractive. Taking this into account, rural dwellers are increasingly likely to move to urban areas, which, in the absence of more effective growth management, will lead to more unauthorized development and associated problems.

The first two links in the urbanization chain are largely beyond the control of urban managers. For the foreseeable future, the Moroccan economy will continue to be largely dependent on the agricultural sector. Fluctuations in rainfall will continue to cause contractions in the rural economy, thereby increasing the perception of greater economic opportunity in cities and putting greater pressure on rural-urban migration. Where urban managers and infrastructure providers can make a difference lies in the shelter choices available to migrants as well as to newly formed urban households. Given greater institutional cooperation, lower standards, and a more flexible, local-level planning process, municipalities should be able to coordinate the advance provision of trunk infrastructure to influence both the location and character of new peripheral development.

II. Urban Development in the Souss-Massa River Basin

This component of the urban development assessment concerns the region formed by the Souss-Massa River Basin. This river basin is situated in the south of Morocco and covers an area of approximately 22,370 square kilometers. When compared to the boundaries of the newly defined Souss-Massa-Dra economic/administrative region, the river basin excludes a large part of the province of Tiznit, including the center of Tiznit itself, and all of the province of Ouarzazate. For certain demographic and economic indicators, the Souss-Massa River Basin roughly corresponds to the Wilaya of Agadir (with its three prefectures of Agadir Ida or Tanane, Inezgane-Aït Melloul, and Chtouka Aït Baha) plus the province of Taroudannt (Figure 4.1).

B. Regional Demographic Profile

The main statistical data provided in this section of the report have been obtained from the Department of Statistics. Some of data presented have also been derived from PADCO's manipulation of the data to the level of the Souss-Massa River Basin.

2. Changes in the Population of the Souss-Massa River Basin

Close to 6.5 percent of the Moroccan population (1,707,000 people in 1994) live in the Souss-Massa River Basin and 10 percent (2,635,000 people) in the corresponding economic/administrative region. In contrast to variations in national averages and/or those for the economic/administrative region, recent population growth in the Souss-Massa River Basin has consistently been high, especially since 1971.

Table 4.1
Changes in the Total Population of the Souss-Massa River Basin
Between 1971 and 1997
(000s)

	Total	Growth		Rate of Growth (in %)	
Period	Population**	Period	Average/yr	Period	Annual Average
1971	865				
1971-1982	1,190	325	30	37.6%	2.94%
1982-1994	1,707	517	43	43.4%	3.05%
1994-1997	1,878	171	57	10.0%	3.23%
1971-1997*	-	1,013	39	117.0%%	3.02
Admin. Region	-	1,264	49	82.9%	2.35%
National Level	-	11,930	460	77.6%	2.23%

(*) CERED estimation (**) Number at end of period

The population of the river basin grew from 865,000 in 1971 to 1,878,000 in 1997. This was an increase of 117 percent over a period of 26 years. During the same period, the overall growth for the economic/administrative region was 83 percent, while that for all of Morocco was 78 percent. The average annual rate of growth rose from 2.9 percent between 1971 and 1982 to 3.1 percent between 1982 and 1994. This rate was projected to increase to 3.2 percent between 1971 and 1997, compared to a projection of 2.2 percent for the national level and 2.4 percent for the economic/administrative region.

Figure 4.1
Souss-Massa River Basin with Provincial Boundaries

In attempting to provide an explanation for these variations in growth, it should first be noted that the region is a large source of migration to other areas of Morocco and to foreign countries. Since 1971, and especially since 1982, however, the patterns of outmigration seem to have become less clear in respect to observed growth, but also in regard to new economic and social development conditions within the region and their impacts on demographic indicators.

Concerning the distribution of population growth between urban and rural areas, the same phenomenon observed at the national level can be seen at the regional level and, due to the later-starting urbanization of the Souss-Massa basin, the contrast is even greater. While the current level of urbanization in the river basin is only 44 percent (compared to national level of 53 percent), the area is experiencing an average increase in the ratio between urban and rural populations of 6.0 percent per year as compared to 2.8 percent at the national level.

Table 4.2
Changes in Urbanization Indicators

Indicator	1971	1982	1994	1997	1971-1997
Percentage of Total Population	14.8%	25.1%	40.3%	44.3%	-
Urban Pop./Rural Pop.	0.17	0.33	0.68	0.80	-
Rate of Growth Urban Pop./Rural Pop.	-	6.1%	6.0%	5.6%	6.0%

In addition, the rural population of Souss-Massa (roughly 1,063,000) has been growing at an annual rate that is higher than the national average (1.35 percent compared to 0.96 percent). The moderate increase in rural population is due to a certain deceleration in natural growth, similar to that observed at the national level since 1982, but also to the continued and still important flow of migrants out of the region.

Table 4.3
Changes in the Rural Population of the Souss-Massa River Basin
Between 1971 and 1997
(000s)

	Rural	Growth		Rate of Growth (in %)	
Period	Population**	Period	Annual Average	Period	Annual Average
1971	737				
1971-1982	892	155	14	21.0%	1.75%
1982-1994	1,018	126	11	14.1%	1.11%
1994-1997*	1,046	28	9	2.7%	0.90%
1971-1997*	-	309	12	41.9%	1.35%
Admin. Region	-	417	16	31.0%	1.04%
National Level	-	2,810	108	28.2%	0.96%

(*) CERED estimation (**) Number at end of period

Rural area indicators for this region, more than for most other areas of Morocco, explain the extraordinary

"demographic explosion" observed in the region's urban areas over the past 30 years. Starting with 128,000 city dwellers in 1971, the urban population currently includes almost 832,000 people. This represents an overall growth of more than 550 percent over 26 years, compared to only 169 percent at the national level. The annual average rate of growth during these 26 years has been 7.5 percent compared to 6.9 percent for the economic/administrative region and 3.9 percent for the country as a whole. This sharp increase in the urban population of Souss-Massa River Basin is due to the combined result of natural population growth, the extension of city boundaries, and, above all, internal and external migration of urban and rural origins. The region, and particularly the urban centers within Greater Agadir that are actively involved in its economic growth, exercises a strong attractive force on the population.

Table 4.4
Changes in the Urban Population of the Souss-Massa River Basin
Between 1971 and 1997
(000s)

Period	Rural Population**	Growth		Rate of Growth (in %)	
		Period	Average/yr	Period	Annual Average
1971	128				
1971-1982	298	170	15	132.8%	7.98%
1982-1994	689	390	33	130.8%	7.22%
1994-1997*	832	143	48	20.8%	6.50%
1971-1997*	-	704	27	548.8%	7.46%
Admin. Region	-	847	33	472.4%	6.94%
National Level	-	9,122	350	169.0%	3.88%

(*) CERED estimation (**) Number at end of period

4. Demographic Indicators

Relevant demographic indicators are those that reflect the level of economic and social development of the region and their impacts on urban development and the protection of the regional environment.

Birth Rates: The average birth rate (or number of births per 100 people) is slightly higher than the national average (3.0 percent compared to 2.6 percent) and, like the national average, has been steadily declining (from 3.4 percent in 1988). The disparity between urban and rural areas is evident, respectively showing 3.2 percent and 2.7 percent.

Fertility Rates: The average number of children by women of child-bearing age (15 to 49 years old), or Composite Fertility Index (ISF), is close to 2.9 in urban areas and 4.0 in rural ones, the overall average being 3.6. This is higher than the average observed for the national level (3.0 in 1997). Declining since the 1980s, the level of this indicator corroborates the level of urbanization reached by Souss-Massa and the existing relations between demography and urban development, the level of urbanization here being only 44 percent compared to the national average of 53 percent.

Factors acting on the relative decline in fertility levels in Souss-Massa, like those at the national level, include delays in the average age of those entering into their first marriage and changes in the status of women. Both of these factors correspond to similar changes in several other regions in Morocco.

Mortality Rate: Roughly 1.05 percent in 1988, the gross mortality rate in the region has now dropped to 0.85 percent, which is still higher than the national average and some of the other regions in Morocco. According to the regional statistics, life expectancy should be around 64 years (compared to the national average of 69 years). Infant and child mortality, however, remain high, which shows the need to provide Souss-Massa with even greater efforts in those areas affecting child and women's health. These efforts should be made as much in rural areas as in urban ones and particularly in the growing number of substandard housing areas.

6. Migrations and Impacts

Migration is a very old phenomenon in the region. In 1988, the proportion of the total regional population affected by migration was 5.6 percent. The percentage declined to just 4.6 percent in 1994. The proportion for men is 6.0 percent and for women 3.8 percent. Close to 95 percent of this migration occurred within the country and particularly within the region of Agadir.

Table 4.5
Estimated Rate of Urban Rural Migration (in %)

Province/Prefecture	Rural Pop. 1982	Rural Pop. 1994	AOGR* 1982-94	ANGR** 1982-94	ARRUM***
Agadir Idaoutanane	98,840	103,075	0.40%	2.20%	1.80%
Inezgane-Aït Melloul	34,420	31,125	-0.80%	2.20%	3.00%
Chtouka Aït Baha	199,621	214,456	0.60%	2.20%	1.60%
Taroudannt	507,522	559,568	0.80%	2.20%	1.40%
Total for River Basin	840,403	908,224	0.60%	2.20%	1.60%
Ourzazate	484,978	553,345	1.10%	2.20%	1.10%
Tiznit	272,490	277,820	0.20%	2.20%	2.00%
Total for Administrative Region	1,597,871	1,739,389	0.70%	2.20%	1.50%

(*) Average Annual Overall Growth Rate

(**) Average Annual Natural Growth Rate

(***) Average Rate of Rural Urban Migration

The rural population is growing more slowly than the urban population in all of the provinces and prefectures within the Souss-Massa River Basin or its economic/administrative region. This signifies that virtually all of the rural areas are losing population to other urban areas within the region, to other parts of Morocco, or to foreign countries. The highest rates of migration have been observed at Inezgane-Aït Melloul, but some caution should be exercised in reviewing these data. The change in population figures also reflects the extension of city boundaries after the 1992 territorial restructuring. The average rate of migration in the river basin is 1.6 percent, close to that of the economic/administrative region. Tiznit presents the highest effective rate in this area.

The prefectures of Agadir and Inezgane were among those urban areas with the highest surplus of migrants during the 15-month period just prior to the census of 1994. The surplus in the number of migrants for these two cities were, respectively, 7,000 and 11,500. At the other end of the scale, Chtouka Aït Baha and Taroudannt presented very different situations based on the data, with -6,550 and -4,040 migrants,

respectively. These numbers were most likely influenced by the change in administrative status of Chtouka Aït Baha and the growth of housing around the urban peripheries of Biougra, the major city in the province.

Table 4.6
Flows of Migrants by Province (in %)

		Previous Residents			Surplus
Actual Residence		Urban	Rural	Total	Rural Migrants
	Total	63.2%	36.8%	100.0%	
Agadir Idaoutanane	Urban	60.3%	31.0%	91.3%	7,000
	Rural	2.9%	5.9%	8.8%	
	Total	45.9%	54.1%	100.0%	
Inezgane-Aït Melloul	Urban	42.9%	45.9%	88.8%	11,500
	Rural	3.0%	8.3%	11.3%	
	Total	60.6%	39.4%	100.0%	
Chtouka Aït Baha	Urban	9.5%	3.6%	13.1%	-6,560
	Rural	51.1%	35.8%	86.9%	
	Total	42.4%	57.6%	100.0%	
Taroudannt	Urban	8.6%	17.3%	25.9%	-4,040
	Rural	33.7%	40.3%	74.0%	

Source: Analyse des données dela Migration interne; Direction de l'Aménagement du Territoire 1997

D. Economic Profile of the Souss-Massa River Basin

Being a region of mostly traditional agriculture, the Souss-Massa region experienced very slow economic development until the 1970s. Production activities were also artisanal and traditional in nature. During this time, the Souss-Massa River Basin developed without important investments, except perhaps in the Taroudannt area, where a few significant agricultural investments were made. The reconstruction of Agadir, however, brought in large amounts of capital. The city was 90 percent destroyed as a result of the earthquake and national solidarity required its reconstruction. Beginning in 1970, the importance of tourism rose and substantial amounts of credit were used, with assistance from the World Bank, to develop a first phase of 5,000 hotel beds and, beginning in 1974, a second phase of 7,000 beds. The economic impact of tourism has been very important to the region, which had little previous development. The greatest impact from leveraging these investments can been seen in the areas around Agadir. Since the city had little available housing, both Inezgane and Aït Melloul became centers where tourism and public works employees were able to find housing and spend a considerable part of their income. This spurred the development of these otherwise relatively poor villages.

The construction over a 10-year period of 15,000 housing units, 12,000 hotel beds, urban infrastructure, and primary roads as well as the transformation of the landing strip in Inezgane into an international airport represented large-scale investments from which the entire region derived considerable benefit. Government decisions made the region, which had not been particularly favored in the past, the object of special attention. During the 10-year period of reconstruction, it is estimated that 20 to 25 percent of all public investments were oriented to this region.

The economic takeoff of the region also brought in the rural population, which appears to have leveled the beneficial effects from investment and to have kept the economic indicators very close to national averages. At the same time, it seems to have produced a beneficial market effect by attracting a significant number of companies to the industrial zone of Aït Melloul. Twenty years earlier, the river basin had been virtually empty of all industry.

2. Agriculture, Animal Breeding, and Forests

The opening of irrigated areas has enabled a very important and rapid development of crops grown under more controlled conditions in greenhouses. Slightly more than 1,000 hectares have been cultivated in this way. Crops grown under greenhouses do not suffer the ill effects of drought, which makes yields relatively stable from one year to the next. In addition, almost 600 hectares of tomatoes are grown under a fall-winter cropping pattern that regularly produces 250,000 to 300,000 tons. Between 60 and 70 percent of this crop is exported. A significant part of remaining production is processed in Aït Melloul, where it is traded and/or packaged for export. The cultivation of other vegetables is very small, ranging from 1,000 to 5,000 tons.

The principal cereals grown in the region are oats, corn, and sorghum. Average yields are relatively high, at 12 to 14 quintals per hectare. These cereals are sold, mostly for local consumption, but they also supply three flour mills with oats to be ground into flour.

There are considerable areas for truck farming around cities and villages, but without any real organization in terms of the potential market. These areas are estimated to cover 4,000 to 5,000 hectares. They grow mainly for small vegetables and beans.

Table 4.7
Cultivated Surface Area and Production Data for Selected Crops

Data/Crop	1993-94	1994-95	1995-96
Cultivated Surface Area (ha 000s)			
Grains			
Total Morocco	6,073.6	3,985.6	5,981.1
Southern Region	307.4	175.5	363.0
% Total	5.1%	4.4%	6.1%
Vegetables			
Total Morocco	346.8	316.1	312.3
Southern Region	2.0	1.4	3.2
% Total	0.6%	0.4%	1.0%
Production (metric tons)			
Grains			
Total Morocco	962.8	176.6	1,009.3
Southern Region	22.4	12.4	60.9
% Total	2.3%	7.0%	6.0%
Vegetables			
Total Morocco	27.7	8.7	27.3
Southern Region	0.1	0.0	1.0
% Total	0.4%	0.3%	3.6%

Citrus fruits are cultivated between Temsia and Taroudannt on an area covering about 27,000 hectares. Average annual production is 736,000 tons. Some 50 percent of these citrus fruits are exported and 10 percent are processed.

Citrus fruit plantations also include the cultivation of other fruits that produce approximately 30,000 tons over an area of some 5,000 hectares.

Detailed information on olive groves in Taroudannt could not be obtained, but there are six industrialized olive presses, five in Taroudannt and one in Agadir.

Table 4.8
Citrus Fruit Production by Type and Region, 1996

Type	Souss-Massa	Other Regions	Total Morocco	Percent Souss-Massa
Surface Area (ha)				
Tangerine	7,220	10,640	17,860	40.4%
Navel Orange	4,020	11,610	15,630	25.7%
Salustiana	850	455	1,305	65.1%
Blood Orange	380	2,995	3,375	11.3%
Ortanic	1,350	1,155	2,505	53.9%
Morocco-Late	11,310	16,685	27,995	40.4%
Other	1,940	3,750	5,690	34.1%
Total	27,070	47,290	74,360	36.4%
Production (tons)				
Tangerine	200,000	132,000	332,000	60.2%
Navel Orange	100,000	173,000	273,000	36.6%
Salustiana	40,000	10,300	50,300	79.5%
Blood Orange	10,000	45,000	55,000	18.2%
Ortanic	30,000	10,600	40,600	73.9%
Morocco-Late	320,000	263,000	583,000	54.9%
Other	36,100	30,000	66,100	54.6%
Total	736,100	663,900	1,400,000	52.6%

A perceptible share of the national cattle stock is found in the region. It supplies three dairies with milk.

Table 4.9
Livestock by Type and Region, 1996
(000s)

Region	Cows	Sheep	Goats
Total Morocco	2,421	16,267	4,658
Southern Region	230	1,201	1,042
Souss-Massa River Basin	124	367	342
Souss-Massa as % Total	5.1%	2.3%	7.3%

Much of the region outside of the irrigated zones and the banks of the Oued is forest. The forest includes 871,000 hectares of natural growth; 50,300 hectares of Thuyas; 106,000 hectares of oak-green; and 587,000 hectares of Argane, whose extract is largely used for cooking oil. A third of the national production of argane comes from this basin. Argane cultivation has been done in connection with the breeding of goats, who keep the areas between the trees free from grass and weeds. The production of argane oil also requires a considerable amount of manual labor to harvest and sort the crop before it is roasted and pressed. Approximately 1,300 hand presses have been counted in the river basin.

Table 4.10
Reforestation Activity, 1993-1995
(000s hectares)

	Reforested		Under Reforestation
Region	1993-94	1994-95	1995-96
Total Morocco	490,518	480,382	24,488
Southern Region	16,612	16,675	2,208
Souss-Massa Basin	13,681	13,822	1,126
% Total	2.8%	2.9%	4.6%

4. Fishing

Agadir is the third most important fishing port in the country in terms of the quantities of seafood unloaded and first in the value of production. In 1996, some 446,600 tons of fish were unloaded, about 8 percent of the national production. The total value of this catch was 328 million DH, or about 25 percent of the value of national production. The presence of such a significant amount of seafood has encouraged other activities for boat repairs, fishing supplies, and processing of seafood, either through refrigeration or canneries.

A total of 37 fishing enterprises have established themselves in Agadir, along with 19 fish canneries, 30 enterprises that condition seafood, and 1 that exports fish-related products. Some 40 companies provide fishing supplies, packaging, and supplies to ships.

At least 200 other enterprises are directly linked to the port. The port also has a small transit activity.

- Tons Loaded 697,000
- Unloaded tons 1,132,000, of which 505,000 are for oil products
- Movements in 1996 1,452

Traffic in the port of Agadir represents 5.5 percent of the total tonnage of Moroccan ports.

Traffic for the airport of Agadir Temsia can be summarized as follows:

- Scheduled flights 4,741
- Charter flights 3, 548
- Total 8,289
- Freight 3,042 tons
- Arriving Passengers 405,416
- Departing Passengers 414,872

6. Manufacturing Industries

Industries in the region are engaged mainly in activities related to agro-processing and agriculture supplies.

Industrial zones within the region at Aït Melloul, Inezgane, and Ouled Teima have been created in a spontaneous manner without any feasibility studies or planning. These industrial areas often began by the uncontrolled use of forest lands based only on “occupation permits” and no real title to the land. After some screening by the municipality, interested companies set themselves up in a scattered manner on the municipality's land. The situation is now in the process of being regularized, with private enterprises being given official title to the land.

Table 4.11
Industrial Sector Data by Region, 1995
(millions DH)

Region	No. of Firms	No. of Employees	Gross Revenue	Production	Salaries	Exports	Investment
Total Morocco	6,259	367,289	147,683	130,036	16,052	32,584	7,861
Southern Region	327	11,060	6,599	5,990	551	1,973	297
% Total	5.2%	3.0%	4.5%	4.6%	3.4%	6.1%	3.8%
Agadir Ida ou Tanane (A)	172	5,204	3,470	3,114	290	937	163
Inezgane-Aït Melloul (B)	80	2,702	1,572	1,465	152	550	82
Taroudannt (C)	17	722	253	186	22	63	10
Subtotal (A+B+C)	269	8,628	5,295	4,765	464	1,550	255
% Total	4.3%	2.3%	3.6%	3.7%	2.9%	4.8%	3.2%

Table 4.11 shows that companies export 32.5 percent of their production (1,550 million out of 4,765 million) and that they invest relatively little.

Among the factories in the region, 36 have been involved in the processing of fruits and vegetables, 19 in

the canning of fish, 6 in the canning of fruits and vegetables, 4 in manufacturing of machines for solar energy, and 8 in producing fish flour; 3 are foundries, 3 are dairies (of which one created in 1974 has a capacity of 100,000 liters per day), 4 are flour mills, and 5 are plastic companies for agricultural use. This enumeration, though incomplete, gives an indication of the industrial activity in the region.

These industries process many products from centers outside the Souss-Massa River Basin. Discussions with operators show a vivid interest in export markets. Their desire to obtain full title to the land has often been motivated by the need to obtain credit for investment. Most banks have been unwilling to make loans to these companies until they could prove their ownership of the land.

Local craftsmanship maintains an equally important place in the economy of the region. Some 51 cooperatives with a total of 1,622 members were counted in 1996.

8. Tourism

Table 4.12
Hotel Sector Data by Class and Region, 1996

Region/Data	1 Star	2 Star	3 Star	4 Star	5 Star	Resort	Total
Total Morocco							
Hotel Nights	252,477	671,376	1,460,758	3,429,922	1,730,980	2,527,693	10,073,206
Agadir							
Nights	35,795	135,376	245,247	1,058,644	190,346	1,755,366	3,420,774
% Total	14.2%	20.2%	16.8%	30.9%	11.0%	69.4%	34.0%
No. of Hotels	8	15	9	13	4	33	82
No. of Beds	380	1,126	1,700	5,784	1,810	11,028	21,828
Occupancy Rate	5.4%	6.4%	39.5%	257.6%	137.2%	43.6%	42.9%
Taroudannt							
Nights		6,978	0	45,816	11,837	0	64,631
No. of Hotels	1	2	0	2	1	0	6
No. of Beds	47	100	0	490	108	0	745
Occupancy Rate	-	19.1%	-	25.6%	30.0%	-	23.8%

Agadir receives 34 percent of the country's overnight stays and maintains an occupancy rate slightly above the national average. Agadir's major clients are tour groups, which frequently stay longer than other visitors. Competition among tour operators is very intense, however, which drives down prices and insures that many hotels show little profit. The number of visitors has declined by 9 percent since 1993.

Hotel development in Taroudannt is very small. The six listed hotels in the city receive few visitors.

10. Employment and Migration

During the course of this mission, it was not possible to obtain detailed data on employment and migration aggregated to the study region. In addition, the new administrative boundaries for the economic regions prevented meaningful disaggregation of data. Data analysis was also made difficult by the fact that Agadir-Ida

ou Tanane and Inezgane-Aït Melloul are both conurbations presented as simple prefectures. Despite these difficulties with the data, it is clear that Agadir-Ida ou Tanane has a high rate of unemployment. Many rural migrants have settled in the area, most notably in precarious housing accommodations. They come from around the city's hinterland as well as from nearby settlements. An important percentage also originate from Tensift and the mountainous areas of the Marrakech region.

Inezgane-Aït Melloul has employment rates more or less equal to the national average. In 1996, the percentage of the population in the labor force and the rate of unemployment for the three prefectures were, respectively: for Agadir-Ida ou Tanane, 54.4 percent and 22.2 percent; for Inezgane-Aït Melloul, 49.8 percent and 16.7 percent; and for Taroudannt 49.5 percent and 15.1 percent.

F. Institutional Profile at the Regional Level

This section of the report provides a brief review of the institutional framework for urban planning and development at the regional level. It briefly describes the evolution of economic/administrative regions, reviews some of the strengths and weaknesses of the newly adopted regional councils, and investigates key institutions involved in urban planning and development within the Souss-Massa River Basin.

Over the last several years, Morocco has begun a progressive phase of large-scale economic, financial, commercial, and institutional reform. During this period, the GOM has developed a rather impressive list of accomplishments. It has adopted a structural adjustment program; opted for more open markets; signed the Treaty of Marrakech that created the Arab Maghreb Union; reconsidered fiscal laws; elaborated a new Investment Code; modernized laws governing commercial and industrial activities; inaugurated privatization policies; passed new laws related to labor and commerce; signed a treaty for free trade zones with the European Union; reinforced relationships with Europe; diversified its openings; improved its infrastructure; continued steps toward a society of democracy, human rights, and the rule of law; decided on a two-house system of parliament increasingly oriented toward working and maintaining a dialogue with the public on national issues; and continued its support of decentralization and deconcentration measures.

An important element of this decentralization process has been the slow but steady progress made in establishing a regional administration and development perspective. While the notion of economic regions, either based on administrative boundaries or on natural definitions, such as river basins, is not new to Morocco, there has been little application of this approach in the past. An operational, efficient, and indispensable regional level of administration and development authority currently does not function between the local level of municipalities, provinces, and prefectures and the national level of central government. A growing conviction exists, however, that such a regional authority has now become necessary.

2. Historical Perspective

A regional approach to territorial administration and development was first introduced by the Law of June 16, 1971. Seven economic regions were initially established that attempted to group together provinces with clear geographic, economic, and social relationships. The intention of these groupings was to stimulate greater and more equitable development between provinces. The actual boundaries of the economic regions, however, often reinforced rather than diminished provincial differences. The lack of genuine regional institutions also meant that the regional implications of the law were not well understood or applied. Work at the regional level continued to be done through central government initiatives and decisions.

While successive national development plans emphasized a range of important policies and programs to

strengthen the regional approach (reduction of inequalities between regions, rural development, decentralization and deconcentration, regional development, promotion of development poles, etc.), the regional assemblies and their elected representatives remained too institutionally weak to follow up, evaluate, examine, or provide any real inputs into the management and development of their region.

After a period of relative inactivity, more serious focus is once again being placed on establishing regional authorities. The new process really began when the regional authorities were written into the Constitution by the referendum of September 4, 1992 and given the same legal status as local authorities. Regional authorities were then further strengthened by the referendum of September 13, 1996, which approved a bicameral Parliament and Chamber of Councilors. Several additional measures were taken in 1997 to put these initiatives into reality. Parliament adopted an enabling Law (32-97) for regional representation and formation of the Chamber of Councilors. The Chamber includes 270 seats, of which some 162, or roughly 60 percent, have been assigned to officials from the regions. These regional officials now have decision-making powers that enable them to participate in determining national-level policies and to make their voices heard.

The establishment of this second chamber has significantly advanced the process of decentralization by providing a means for regions to present their points of view at the very highest levels of government. Two-fifths of the members of this second chamber are elected from the regions.

The Law (1-97-84) of April 2, 1997 amended the Law of 1971 and made several important changes in regional organization. While it reinforced the role of Regional Councils, it also kept in place the executive power of the governor located in the regional capital. A subsequent decree on August 17, 1997 fixed the number of regions at 16, their capitals and boundaries, and the number of representatives to be elected. Members of the regional councils were elected in October 1997 and provisional budgets established for the first six months of 1998 to enable their activities to get under way.

The most recent actions of 1997 make it clear that the long and rather tentative first phase of the regionalization process has ended and that a second, more serious and active phase has begun. Regionalization is likely to accelerate as these new regional councilors begin to impose their ideas in parliament.

A regional development department has also been created under the Prime Minister’s office in order to promote and coordinate the works, studies, and actions that concern the new regions and, in general, to assist them in promoting their economic development.

4. The New Regional Councils

The regional council consists of presidents of the different prefectoral and provincial councils, as well as representatives from professional organizations within the region. At the same time, governors from the prefectures and provinces are responsible for ensuring the position of general secretary and the linkages between the regional council and local and central authorities.

A number of drawbacks are inherent in the basic constitution of these regional councils. To begin, the council meets only three times a year for only for a few days at a time. The council has only very limited staff for its own administration and its financial resources remain very uncertain and insufficient given the existing deficits to be addressed in each of the regions. All of these conditions make it difficult for the regional council to seriously consider the major economic, social, and environmental development issues that face its region.

Deliberations also continue to be made under the direction of the governor, which may have a dampening effect on the establishment of a regional identity given the governor's role as representative of the central government. While this situation may have been acceptable when the regional council was merely a consultative body with only minor involvement by elected officials, it is likely to change as the new councils begin to develop real decision-making powers. Little regionalization will take place as long as there are no changes in the administration responsible for executing services and its relationship to central government administration.

Other problems include the fact that there are few specific and/or permanent regional institutions, that there is a general lack of human resources and own-source financial means for regional development, and that there is a lack of any clear, strong, global vision about the region or any real or enthusiastic participation by the people or their representatives. These conditions have made it virtually impossible for truly regional development to have any genuine operational success in the past.

The regional council needs to work with the municipalities and local authorities involved in urban development without reducing their respective areas of influence. A framework of mutual responsibility and dynamic partnership is required.

The intention of the new law of 1997 was to remedy the insufficiencies in the 1971 law and to correct past mistakes that:

- confined the regional council to a purely consultative role;
- failed to house the regional organization in a permanent location;
- provided only marginal human and financial resources dedicated to regional organization; and
- kept in place the central administration’s strong overriding authority or tutelle.

In response to these problems, Article 7 of the new law specifically gave the regional council the powers to:

- examine and vote on the budget and administrative accounts;
- elaborate a social and economic development plan for the region;
- elaborate a master plan for regional development;
- fix taxes, etc. to profit the region;
- promote private investment, activity zones, etc.;
- protect the environment;
- rationalize the use of water resources;
- promote social and cultural activities; and
- preserve and promote regional architecture.

Some of the major considerations and/or improvements to be made in the future might include:

- shifting the executive power of region from the governor of the regional capital to an elected executive officer directly responsible to the regional council;
- progressively increasing the powers of the regional council beyond the ability to make propositions, suggestions, and opinions as it gains more experience and internal capacity;
- reducing the amount of central authority or tutelle under which the organization of municipalities is placed based on the law of September 30, 1976, which is now largely out of date;
- providing regional councils with their own competent and multidisciplinary administrations and

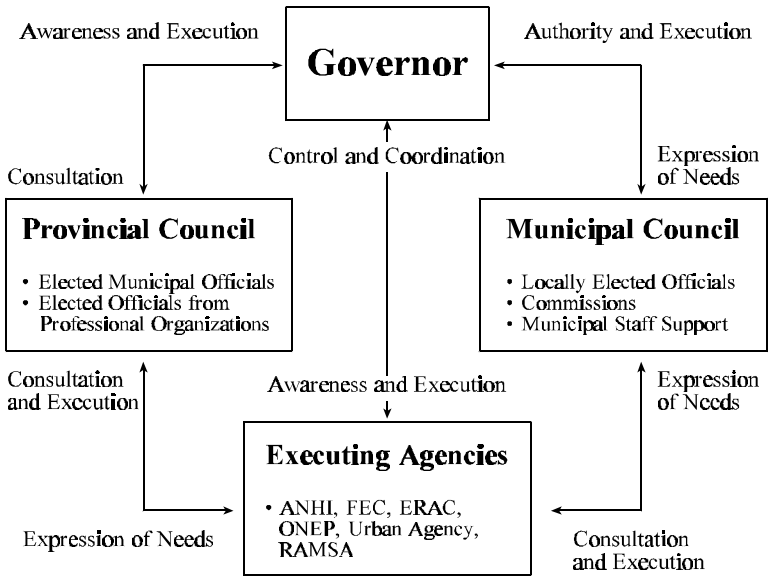
placing certain services of central administration under the authority of the regional council;

- encouraging financial institutions, such as the Ministry of Finance, Banque Al Maghrib, and the Professional Group of Moroccan Banks, to adopt a regional development perspective; and
- ensuring transparency in regional management in offering the possibility to fight against disparities, inequalities, disequilibriums, deficits, and gaps.

6. Institutional Organization and Management

Institutions involved in various aspects of urban development within the region include both appointed and elected administrative authorities (region, wilaya, province, prefecture, urban community, etc.); regional offices of central government administration (e.g., town planning, housing, hydrology, etc.); parastatal agencies, such as ANHI, ONEP, and ERAC; and agencies legally assigned to the region, such as the Urban Agency and RAMSA, but still under the authority or tutelle of central government. Many of these agencies have overlapping boundaries and responsibilities. Most of all, there is no clear leader for the region. Figure 4.2 presents a schematic diagram of the basic relationships between institutions. With the installation of the regional council, it is likely that the governor of the wilaya of Agadir will assume a much greater leadership role.

Figure 4.2
Institutional Arrangement for Economic and Spatial Planning at the Provincial Level



Selected Agencies

Three agencies play a fundamental role in the urban development of the region. These are the Urban Agency of Agadir, ANHI, and FEC. Given the amount of work and studies already devoted to ANHI and FEC, this part of the report focuses on the Urban Agency of Agadir.

Urban Agency of Agadir

The Urban Agency of Agadir is the key urban planning agency for the Souss-Massa River Basin. It serves an area of roughly 29,000 square kilometers covering all of the Souss-Massa River Basin and most of the newly defined economic/administrative region except for Ourzazate. Approximately 1,600,000 people live in the area of its services.

The agency was established by *dahir* 1-89-225 of November 9, 1992. Its functions and responsibilities include:

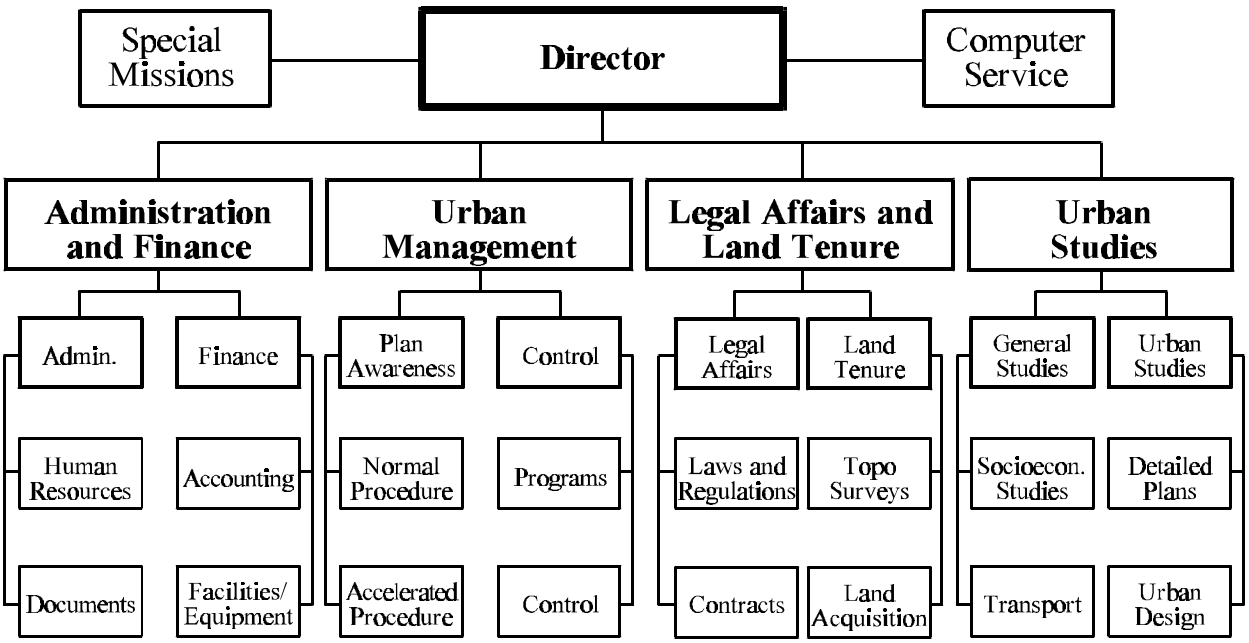
- preparing SDAUs and monitoring their execution;
- programming development projects essential to achieving the objectives of the SDAU;
- establishing legal planning documents and development regulations;
- reviewing all projects for land subdivision, housing, and construction;
- ensuring the compliance of land development, grouped housing, and constructions with existing plans and regulations;
- preparing planning studies;
- promoting and implementing urban rehabilitation programs and/or the upgrading of neighborhoods without basic infrastructure;
- participating in various ways in projects that support its mission;
- working with elected officials to promote groups of landowners by offering them the necessary technical assistance to implement development projects within the context of the urban planning documents;
- providing technical assistance for town and regional planning to municipalities and/or public sector developers upon request; and
- collecting and diffusing all available information relative to urban development in the provinces of Agadir, Tiznit, and Taroudannt.

The Agency's potential incomes can include funds from the government budget, payments for its services, profits from its operations, subsidies from national and local governments, reimbursable advances, tax receipts applied in its favor, gifts, and any other funds that support its activities.

The Board of Directors of the Urban Agency is headed by the Prime Minister or his delegated representative. The Board includes 15 representatives from the central government; three provincial governors (from the provinces of Agadir, Taroudannt, and Tiznit); three presidents of the provincial councils from the same three provinces; three presidents of Agadir's Chambers of Commerce and Industry, Artisanat and Agriculture; and the president of the Chamber of Agriculture of Tiznit. The total number of board members is 26, of which 19 represent the central government. The Board of Directors meets at least twice a year.

Organization of Agency. The Urban Agency of Agadir includes four main departments for (1) administration and finance, (2) urban management, (3) legal and land ownership affairs, and (4) studies. The Agency also includes two small units established to assist the Director in special areas and a computer department to develop an urban data base for the wilaya of Agadir. Figure 4.3 presents a simplified version of the agency's organization chart.

Figure 4.3
Organization Chart of the Urban Agency of Agadir



Agency Activities. The agency's activities include preparing and processing planning documents, enforcing planning and development regulations, providing official advice to investors and the population on specific development projects, and developing an urban database for the region.

The Agency's most important planning activities between 1995 and 1997 have involved the preparation of some 47 planning documents, either through the efforts of its own staff or through the contracting of private consultants. These documents include three basic types of plans: master plans or SDAUs; detailed plans for urban areas (*plans d'aménagement*); and plans for smaller, urban and rural centers.

Four master plans (SDAUs) have been started, of which only the plan for Agadir has been legally adopted. Master plans for the coast North of Agadir, Tiznit, and Taroudannt/Ouled Teima are still under preparation.

The Agency has produced 24 detailed development plans, which have been distributed throughout the region as follows: seven for the prefecture of Agadir Idaoutanane; seven for the prefecture of Inezgane-Aït Melloul; five for the province of Chtouka Aït Baha; three for the province of Tiznit; and two for the province of Taroudannt. Only one of these plans has been legally adopted. Most of the others are in the advance stages of preparation and approval. The Urban Agency has undertaken 10 of these plans using its own resources and has engaged the assistance of private consultants for 5 others. The nine remaining plans are being developed entirely by private consultants.

Finally, the Agency has been involved in the preparation of 19 development plans for smaller urban centers. These development plans include: three for the prefecture of Agadir Idaoutanane; four for the province of Chtouka Aït Baha; nine for the province of Tiznit; and three for the province of Taroudannt. The Urban Agency has undertaken 10 of these plans on its own, with one done by the province of Taroudannt and the

remainder done by private consulting firms.

Linkages

Virtually all of the government agencies working in region are under the ultimate authority or tutelle of a central government agency. In many cases, this tutelle, or upward link, remains very strong and often hampers the regional offices in their activities (e.g., in the time it takes to review urban planning documents). The question is not so much the existence of such upward links, but rather the impact of their application on the regional agency's ability to take action and to work closely with various administrative offices in the region and with local authorities and communities.

Until now, the Urban Agency of Agadir has been under the authority of the Ministry of Interior and has acted as its agent in terms of urban planning and management. A considerable amount of the Agency's time and effort have been involved in shepherding official planning documents through the review and approval process and in ruling on the compliance of proposed development projects with these plans and regulations. More time and effort needs to be spent working with municipalities and local communities and obtaining their inputs and commitments to the planning process.

While upward linkages through the system of tutelage are rather clear, horizontal linkages to other agencies and downward linkages to local authorities and communities are not. Part of this problem is due to the considerable overlap that exists among administrative agencies in terms of the areas they cover and the activities for which they are responsible. Many activities are conducted on the basis of resource availability, without any coordination of effort or pooling of resources.

Within the regional institutional framework, most municipalities are very weak. One of the problems that will increase with greater democratization involves the internal conflicts that exist between administrative staff and elected officials. The conflict between the secretary general of the municipality and the president of the municipal council about who is actually running the municipality is likely to be the most difficult to resolve. Part of this problem is due to the fact that locally elected officials have not been given any genuine or well-defined role in urban development. Nor do they have very clear responsibilities in the conception, elaboration, execution, monitoring, evaluation, criticism, and/or revision of projects, programs, or regional policies. Upward linkages among elected officials, municipality staff, and the newly constituted regional authority need to be established in a clear and positive manner.

There has also been little or no implication of the population in any common regional efforts due to their general lack of conviction and/or feeling for working toward economic, social, and/or cultural advancement of a larger-scale area. Greater awareness about the regional environment and improvements that can be made should help to improve this situation.

H. Regional Urban Development and Housing

As revealed by the analysis of regional demographic growth, Souss-Massa is clearly an area where development has been very noticeable. Combined with other parameters, such as government actions, physical surroundings, and local economic and social potentials and constraints, this growth has had a visible impact on the spatial organization of human settlements within the region and, in particular, on urban development. This section of the report attempts to analyze the nature of this development and its effect on the local population in terms of satisfying their basic needs for community facilities, environmental infrastructure, and housing.

Particular attention will be paid to the overall issue of substandard housing in the region, given the

importance of its negative effects on human health and population behavior, and on the natural environment and water resources. Certain actions related to the upgrading of substandard housing within the region have received awards at the international level (Habitat II) and provide examples that could be adapted and more universally applied. The reemergence of substandard housing has again made it an important issue both within the region and throughout the country. The current situation indicates that the adopted strategies to solve the problem still have a long way to go to achieve desired success.

2. Regional Urban Structure

The analysis of population density provides a practical set of indicators for understanding regional population distribution and its relevant implications, most notably in determining the needs for health and education facilities and urban infrastructure. Population densities by province or commune, currently being used as indicators, are presented in the following table and map.

Table 4.13
Population Density by Province (1994)

Province/Prefecture	Total Pop. 1994	Communes			Km^2	Population Density (inhab./km^2)
		Urban	Rural*	Total		
Agadir Idaoutanane	365,965	4	12	16	2,094	175
Inezgane-Aït Melloul	292,799	3	3	6	293	999
Chtouka Aït Baha	240,092	2	20	22	3,523	68
Taroudannt	693,968	7	82	89	16,460	42
Total for River Basin	1,592,824	16	117	133	22,370	71
Ourzazate	694,884	7	55	62	41,550	17
Tiznit	347,821	4	40	44	6,960	50
Total for Administrative Region	2,635,529	27	212	239	70,880	37

(*) Including rural centers counted as urban by the Department of Statistics

Since the redefinition of territorial boundaries in 1994, the prefecture of Inezgane-Aït Melloul has "inherited" a very small, essentially urban area that has given the prefecture one of the highest population densities (at roughly 1,000 inhabitants per square kilometer) in the country. The second highest density in the region is the prefecture of Agadir, with only 175 inhabitants/km^2. Chtouka Aït Baha and Tiznit, respectively, come in the third and fourth positions. At the national level, Agadir Ida Ou Tanane currently holds the seventh position.

This unbalanced distribution of population densities carries through to the level of the municipal boundaries and the numbers of urban centers in the region as shown in the following map (Figure 4.4).

Figure 4.4
City Size and Rural Population Densities in the Souss-Massa-Dra Economic Region

Changes in the Region's Urban Network

The analysis of the urban network of a region requires a series of studies on the distribution of urban services, the hierarchy of cities, and the urban regional structure. This section of the report reviews the evolution of these urban networks.

Similar to other areas in Morocco, both the economic/administrative region and the river basin for the Souss-Massa area have seen the number of cities within their boundaries grow very rapidly over the past 30 years. This growth has been the result of the combined effects of migration, population growth, and political-administrative decisions. The number of cities has virtually doubled during this period and their average size has multiplied by a factor close to three.

Table 4.14
Change in Regional Urbanization Indicators

Year	Urban Population	Average Annual Growth Rate	% Urban Population	Number of Cities	Ave. Population per City
Administrative Region					
1971	179,260		11.8%	18	9,960
1982	386,403	7.23%	19.5%	22	17,560
1994	896,140	7.26%	34.0%	32	28,000
1997	1,026,000	4.61%	36.8%	32	32,100
River Basin					
1971	128,200		14.8%	9	14,240
1982	298,400	7.98%	25.1%	13	22,950
1994	688,600	7.22%	40.3%	20	34,430
1997	797,100	5.00%	44.0%	20	39,860

Table 4.15
Changes in the Urban Network in the River Basin

	1971		1982		1994	
City Size	Number	Average Size	Number	Average Size	Number	Average Size
More than 100,000 inhabitants	0	0	1	110,500	1	185,500
50,000 to 100,000 inhabitants	1	61,200	0	0	4	76,240
10,000 to 50,000 inhabitants	3	16,600	6	27,400	5	27,670
5,000 to 10,000 inhabitants	2	6,300	2	7,210	6	7,100
Less than 5,000 inhabitants	3	1,510	4	2,260	4	4,260
Total	9	14,237	13	22,951	20	34,423

AAGR = Average annual growth rate

The number of cities has grown from 9 in 1971 to 20 in 1994 and has involved all sizes of cities. Cities

with more than 50,000 inhabitants grew in number from one (Agadir city) to five (Agadir-Anza, Inezgane, Aït Melloul, Dcheira, and Taroudannt). With the exception of Taroudannt at the far eastern end of the river basin, the remaining four cities are part of Greater Agadir (currently composed of the municipalities of Agadir, Anza, Inezgane, Aït Melloul, Ben Sargao, Tikiouine, and Decheira). This particular group of cities has an area of influence that exceeds the regional limits of the Souss-Massa River Basin. They provide services to areas outside the basin, such as the Saharan provinces, through the diversity of their administrative and economic activities and their social facilities (university, regional hospital, etc.).

With the exception of Taroudannt, an historic city with moderate growth and development, the major urban centers of the Souss-Massa River Basin are located around the city of Agadir. These urban centers have developed, beginning with Agadir's post-earthquake reconstruction in 1961, for a number of different reasons. The results of this situation define the major characteristics of the Souss-Massa region, in comparison to other regions in Morocco, and determine its most pressing problems, among which are natural resource management and the use of water.

Spatial Organization and Urban Development

Population concentrations within the region basically follow the distribution of resources and development potential. The region comprises the major seaport and tourism area of Agadir itself, industrial and agro-processing industries in the plains of the Souss and Massa rivers within Agadir's hinterland and rural populations living in remote marginal and mountainous areas subject to the poverty and scarcity of resources and facilities and serving as the major sources of migration.

Cities and other population concentrations continue to grow in an uncontrolled manner toward the interior of the plain and along the Souss river and the major roads that run parallel to it. Because of their lack of urban infrastructure and services, these newly forming settlements present growing problems in terms of the negative impacts they have on agricultural areas (creeping encroachment of arable land and potential water disputes) and on the environment.

In terms of water problems, the Souss-Massa River Basin, along with the region of Marrakech, make up the two large inhabited regions of Morocco where the conflict over water between urban and rural development is already perceptible to the local population and authorities. The geographic characteristics of the Souss-Massa region, such as the dryness of its climate, its large areas of agricultural lands, and growing population density in the plain, have all had a noticeable effect on regional and urban development. This has been very evident in the provision of direct government support to economic growth through the large-scale project approach adopted as a result of the 1961 earthquake. Major projects affected several key sectors of economic activity in the region in different ways. They involved industry (8 percent of national employment), agriculture (construction of dams and irrigated zones in the Souss-Massa River Basin), tourism (20 percent of the national overnight bed capacity), ocean fishing (23 percent of the national value produced), and money transfers from Moroccans living abroad (11 percent of the total bank transfers). All of these efforts have contributed toward transforming the image of the area from one that not too long ago was considered negative and a source of emigration to one that is now much more positive and attractive to development.

All of these actions and their combined effects have led to the establishment of a settlement structure that is relatively balanced and organized compared to other regions in Morocco. Real and diverse problems, however, have been created by the current, accelerated and basically uncontrolled urbanization of the region.

4. Urban Structures and Facilities

Urban Morphologies and Problems

Except for Taroudannt, the river basin does not include many examples of typical traditional urban settlements found in Morocco. This type of urban morphology includes a historic core or medina adjacent to a “new city” from the colonial period and/or surrounded by more recent neighborhoods made up of public and private sector subdivisions.

With the exception of the historic city of Taroudannt and the fully planned and organized development of Agadir (most notably its urban core, port, and industrial area), urban areas in the region have been “spontaneously” built by the juxtaposition or dispersion of authorized and unauthorized subdivisions and scattered housing construction. The development of unplanned, satellite centers around Agadir has been closely linked to commercial and administrative functions located along the main roads. Housing has progressively attached itself to these areas but without much accompanying economic or industrial activity (such as can be found in Tassila and Aït Melloul). The appearance of dispersed construction and small groups of clandestine housing (underserviced and unauthorized) located along the roads and Souss River as far up river as Ouled Teima is one of the main characteristics of the new urban morphology of the region.

An analysis of the key urban problems of the Souss-Massa River Basin includes the study of Greater Agadir, its main municipalities, and the small urban centers that are linked to it. Although these smaller centers reach as far as Ouled Teima in the province of Taroudannt, they are even more closely associated with the economic and socio-cultural catchment area of Greater Agadir.

The basic problems facing urban development in Greater Agadir can be summarized in the following manner based on the different documents that have been analyzed.

- Agadir, with its totally planned and organized urban growth between 1960 and 1980, was originally built on land belonging to the government and improved through public sector initiatives and efforts. Among the results of this process was the juxtaposition of small, ill-matched urban landscapes that failed to achieve a coherent landscape.
- Potential economic growth combined with a high rate of migration has produced a proliferation of bidonvilles in the area beginning in 1960. Despite the efforts of the Ministry of Housing to address this situation, the number of bidonville households has continued to rise, reaching close to 12,530 recorded households in Greater Agadir in 1992. After deducting the number of households concerned by completed and ongoing upgrading activities, the remaining, estimated number of bidonville households is now close to 9,000.
- Faced with the rapid and controlled development of the city of Agadir following the earthquake of 1961, the growth of several urban centers dispersed around the periphery of Agadir became increasingly uncontrolled and without the accompanying facilities and urban services. The result has been important disparities among the different municipalities that currently make up Greater Agadir in terms of the quality of their housing, infrastructure, urban services, and landscape.
- Employment concentrations to the north of Agadir have brought about an important imbalance between where the work force lives and works. The relative distance between the city's different growth poles make travel to work relatively long and/or expensive.
- Different financial approaches used by households to finance the acquisition of their housing, particularly within Agadir's peripheral areas, have underlined the weaknesses in housing finance, particularly for low-income families.
- There is an insufficient supply of housing units in light of continually growing demand and a rather paradoxical situation in Agadir, where a basic lack of land exists alongside an abundance of unserviced plots. This situation indicates a high degree of land speculation.

Community Facilities

The most important community facilities relate to education, health, sporting, and cultural activities. With the exception of health, it was not possible during the time of the mission to obtain very recent statistics. Those available in the regional office of the Ministry of Planning dated from 1995. It is very likely, however, that these figures have evolved very little over the last three years. They should still be useful in evaluating corresponding indicators.

Education

Concerning primary education, close to 310 schools were counted in the region, of which only 4 percent were private (notably in Agadir, Taroudannt, and Inezgane). Primary schools were attended by some 314,000 students. Roughly 38 percent of these students were girls compared to the national average of 41 percent. The lowest levels of school attendance by young girls were found in Chtouka Aït Baha and Taroudannt, where major efforts are now being made to rectify this situation.

Table 4.16
Public Primary Schools in the Souss-Massa River Basin (1995)

			Number of Students			Students
Province/Prefecture	Schools	Classrooms	Total	Girls	%	per Class
Agadir Idaoutanane	57	1,194	42,186	17,962	42.6%	35
Inezgane-Aït Melloul	40	945	39,476	17,516	44.4%	42
Chtouka Aït Baha	51	909	25,685	8,462	32.9%	28
Taroudannt	151	2,895	71,219	24,274	34.1%	25
Total for River Basin	299	5,943	178,566	68,214	38.2%	30
Ourzazate	161	3,426	91,215	31,416	34.4%	27
Tiznit	98	1,695	41,253	14,113	34.2%	24
Total for Administrative Region	558	11,064	311,034	113,743	36.6%	28

Source: *Monographie de la region du Sud-1995: Delégation régionale du Plan*

In terms of the distribution of schools by urban and rural areas, rural areas had some 68 percent of all primary schools within the region compared to 53 percent for the country as a whole. This high percentage can be explained by the predominance of the rural population in the region (57 percent compared to roughly 48 percent for the nation as a whole).

In terms of secondary schools (colleges and high schools), essentially public, there were 39 colleges and 23 high schools in the area. They served a total of 92,400 students for an average of 32 students per class.

Table 4.17
Public Secondary Schools in the Souss-Massa River Basin (1995)

	College				High School			
Province/Prefecture	Number	Classes	Students	Student/Class	Number	Classes	Students	Student/Class
Agadir Idaoutanane	13	384	13,610	35	6	164	5,057	31
Inezgane-Aït Melloul	8	320	11,871	37	5	130	4,563	35
Chtouka Aït Baha	8	108	4,130	38	5	28	962	34
Taroudannt	10	420	11,420	27	7	147	4,375	30
Total for River Basin	39	1,232	41,031	33	23	469	14,957	32
Ourzazate	12	565	18,324	32	13	209	5,963	29
Tiznit	14	230	7,979	35	6	109	3,146	29
Total for Administrative Region	65	2,027	67,334	33	42	787	24,066	31

Source: *Monographie de la region du Sud-1995: Delégation régionale du Plan*

Finally, concerning higher education, the region had one university (Ibnou Zohr), which began offering education in letters and human sciences in 1985. It was followed by a higher school of applied technology in 1990 and a national school of commerce and management in 1994. All of these schools are located in the wilaya of Agadir.

Health

Similar to the national level, the services provided by the regional health sector essentially involve the expansion of vaccination programs, hygiene control in rural areas, and generalization of family planning.

Concerning health-care facilities, recent information published by the Department of Health in 1997, on the occasion of the new regional boundaries, showed that the Souss-Massa-Dra region included 293 basic health centers (local hospital, urban or rural health center, rural dispensary), in which close to half were located in the Souss-Massa River Basin.

Compared to the national average of one health establishment for every 14,000 people, the ratios are favorable for all provinces in the region except for the most urbanized areas of Agadir and Inezgane. These areas, however, also have higher-level establishments and private doctors.

Table 4.18
Distribution of Basic Public Health Facilities (1997)

Province/Prefecture	Population in 1997	Urban Areas			Rural Areas				Overall Total	Inhab./ Center
		LH	UHC	Total	LH	RHC	DR	Total		
Agadir Idaoutanane	403,000	0	9	9	0	5	13	18	27	14,926
Inezgane-Aït Melloul	337,000	0	7	7	0	3	0	3	10	33,700
Chtouka Aït Baha	246,000	1	1	2	0	14	12	26	28	8,786
Taroudannt	720,000	4	5	9	1	46	29	76	85	8,471
Total for River Basin	1,706,000	5	22	27	1	68	54	123	150	11,373
Ourzazate	731,000	1	8	9	0	39	20	59	68	10,750
Tiznit	352,000	1	4	5	0	28	42	70	75	4,693
Total for Administrative Region	2,789,000	7	34	41	1	135	116	252	293	9,519

Source: Data on regional areas - Ministry of Health 1998

Note: LH = local hospital UHC = urban health center RHC = rural health center RD = rural dispensary

Three large hospitals are located in the river basin (in Agadir, Inezgane, and Taroudannt) that have a total of 1,300 beds. Similarly, the private sector contributes another 13 clinics with 270 beds, most of which are located in Agadir.

According to the regional office of the Ministry of Planning, the average rate of occupation for beds in public hospitals is around 47 percent and is probably higher than 60 percent in Agadir, where the average daily number of outpatient visits is more than 420.

Finally, there are some 350 doctors in the river basin, of which 50 percent practice in the private sector. This means that there are roughly 5,400 people per doctor, compared to the national average in 1994 of only 2,900 people per doctor.

In conclusion, the overall health infrastructure in the region appears to be more or less satisfactory when compared to other regions in Morocco. Given the facilities already in place, the efforts of the government should focus on continuing the institutionalization of actions related to preventive medicine. Special emphasis should be given to the reduction of infant and child mortality and to the improvement of maternal and child health care.

Cultural and Sporting Facilities

The Souss-Massa River Basin includes:

- 14 women's centers serving 1,260 beneficiaries. of which 50 percent are in the province of Taroudannt; the average number of inhabitants per facility is 130,000 compared to 62,700 inhabitants per facility at the national level;
- six youth centers for 20,000 permanent members, or one facility for every 315,000 inhabitants;
- 148 sporting facilities (football, volleyball, etc.), or one for every 12,800 inhabitants; and
- six cinemas.

With the exception of sporting facilities, the region is moderately underserviced in community and social facilities. The most notable deficiency is in the provision of women's centers aimed at promoting improved conditions for women in general and at helping young, out-of-school girls in particular. These centers are lacking in urban areas, particularly in the many substandard neighborhoods that surround Agadir.

6. Housing in Souss-Massa

Characteristics and Indicators of the Housing Stock

This section of the report concerns a selection of key housing indicators taken primarily from the census of 1994.

According to the census, the housing stock in the Souss-Massa River Basin in 1994 was around 235,000 units, of which 50 percent were located in urban areas. The same census showed that the housing stock in the corresponding administrative region was around 362,000 units, of which 41 percent were located in urban areas. The basic characteristics of this housing stock can be described as follows.

- Housing types: roughly 77 percent of the households living in rural areas of the Souss-Massa River Basin reside in the rural housing type, a percentage that was lower than the national average of 87 percent. The greater percentage of Moroccan houses (18.6 percent) in the river basin can also be explained by the significant amount of remittances invested into housing development from migrants living outside the region.

  Housing types within the cities of the region also showed greater diversity than found at the national level. Close to three-quarters of the households (73.2 percent) lived in Moroccan-type houses, with another 12.3 percent housed in summary and rural type units. The remainder lived in villas, apartments, etc. The housing situation in the administrative region was approximately the same.
- Housing tenure: Close to 90 percent of the households living in rural areas owned the housing units in which they lived. The percentage was 54 percent in urban areas or slightly higher than the national average.

Table 4.19
Housing Types in Souss-Massa-Dra Region (%)

Province/Prefecture		Villas	Moroccan	Shanties	Rural	Other
	Urban	10.7%	62.6%	21.0%	0.1%	5.6%
	Rural	0.7%	21.6%	2.0%	74.3%	1.5%
Inezgane-Aït Melloul	Urban	6.4%	80.5%	5.3%	0.7%	7.1%
	Rural	0.8%	46.0%	3.1%	46.4%	3.7%
Chtouka Aït Baha	Urban	2.0%	67.6%	25.5%	3.1%	1.8%
	Rural	0.7%	28.1%	4.0%	64.2%	3.0%
Taroudannt	Urban	9.7%	79.8%	3.7%	2.6%	4.2%
	Rural	0.4%	12.0%	1.5%	85.1%	1.1%
Total for River Basin	Urban	8.6%	73.2%	11.4%	0.9%	5.9%
	Rural	0.5%	18.6%	2.3%	76.9%	1.7%
Ourzazate	Urban	5.2%	76.2%	7.0%	9.0%	2.6%
	Rural	0.5%	7.4%	1.5%	89.5%	1.1%
Tiznit	Urban	7.1%	82.9%	3.1%	2.5%	4.5%
	Rural	0.6%	16.8%	3.1%	78.4%	1.2%
Total for Administrative Region	Urban	8.1%	74.3%	10.2%	2.0%	5.4%
	Rural	0.5%	15.3%	2.2%	80.5%	1.5%

Source: 1994 Census

Table 4.20
Housing Unit Tenure in Souss-Massa-Dra Region (%)

	Urban Areas			Rural Areas		
Province/Prefecture	Owners	Renters	Others	Owners	Renters	Others
Agadir Idaoutanane	51.6%	29.8%	18.6%	90.6%	3.7%	5.7%
Inezgane-Aït Melloul	49.9%	41.2%	8.9%	79.6%	9.2%	11.0%
Chtouka Aït Baha	81.9%	12.9%	5.2%	88.2%	3.8%	8.0%
Taroudannt	61.5%	28.4%	10.1%	91.3%	0.8%	7.9%
Total for River Basin	53.4%	33.7%	12.9%	90.0%	2.3%	7.8%
Ourzazate	61.8%	22.9%	15.4%	91.2%	0.9%	7.8%
Tiznit	54.7%	34.4%	10.8%	94.6%	1.2%	4.2%
Total for Administrative Region	54.6%	32.4%	13.1%	91.1%	1.7%	7.1%

Source: 1994 Census

- Number of habitable rooms per housing unit: Close to 42 percent of the households in urban areas lived in housing units with two rooms or more and 69 percent lived in those with less than four rooms. With an average household size of 5.2, there was an average of 1.7 persons per room.

  In rural areas, there was an average of almost two persons per room, even though 53 percent of the households occupied housing units with three rooms or more. The average household size was 6.6.

Table 4.21
Housing Unit Size in the Souss-Massa-Dra Region (%)

Province/Prefecture		1 to 2 rooms	3 rooms	4 rooms	5 rooms and Over	Total
Agadir Idaoutanane	Urban	43.0%	27.9%	11.6%	17.5%	100.0%
	Rural	25.2%	27.5%	23.7%	23.6%	100.0%
Inezgane-Aït Melloul	Urban	47.7%	24.5%	10.4%	17.4%	100.0%
	Rural	40.0%	25.7%	16.8%	17.5%	100.0%
Chtouka Aït Baha	Urban	14.3%	25.3%	24.8%	35.6%	100.0%
	Rural	25.4%	29.0%	22.7%	22.9%	100.0%
Taroudannt	Urban	33.0%	27.0%	18.3%	21.7%	100.0%
	Rural	26.6%	24.6%	21.5%	27.3%	100.0%
Total for River Basin	Urban	42.2%	26.5%	12.8%	18.6%	100.1%
	Rural	26.6%	26.1%	21.9%	25.4%	100.0%
Ourzazate	Urban	25.2%	26.8%	20.6%	27.4%	100.0%
	Rural	27.0%	23.0%	21.9%	28.1%	100.0%
Tiznit	Urban	27.4%	29.1%	15.2%	28.3%	100.0%
	Rural	20.0%	24.9%	22.0%	33.1%	100.0%
Total for Administrative Region	Urban	38.8%	26.8%	13.9%	20.5%	100.0%
	Rural	25.5%	25.1%	21.9%	27.5%	100.0%

Source: 1994 Census

- In-house facilities: Only some 56.4 percent of the households in urban areas within the river basin in 1994 were connected to potable water. This situation was worse in the Prefecture of Inezgane-Aït Melloul (43.7 percent) and better in Chtouka Aït Baha, largely due to its low level of urbanization. At the same time, electricity connections were not as generalized as expected. Only 73 percent of the housing units were connected. Other categories of facilities related to housing unit comfort were roughly the same (see Table 4.22).

  In rural areas the situation was considerably more serious: only 5.2 percent were connected to potable water and 10.7 percent to electricity.

Table 4.22
Housing Unit Amenities in the Souss-Massa-Dra Region (%)

Province/Prefecture		Piped Water		Electricity		Bathroom		WC	
Agadir Idaoutanane	Urban	64.9%		76.2%		43.9%		89.6%	
	Rural		2.8%		11.6%		11.6%		45.1%
Inezgane-Aït Melloul	Urban	43.7%		70.3%		24.1%		90.4%	
	Rural		0.5%		17.8%		23.4%		72.9%
Chtouka Aït Baha	Urban	82.1%		83.4%		26.3%		88.5%	
	Rural		4.1%		10.3%		8.7%		63.6%
Taroudannt	Urban	63.2%		74.5%		33.9%		88.8%	
	Rural		6.4%		10.3%		32.9%		32.3%
Total for River Basin	Urban	56.4%		73.3%		33.9%		89.7%	
	Rural		5.2%		10.7%		23.7%		43.5%
Ourzazate	Urban	65.9%		78.0%		32.3%		76.9%	
	Rural		6.5%		18.9%		6.4%		34.6%
Tiznit	Urban	81.1%		86.0%		41.2%		92.7%	
	Rural		2.4%		10.3%		8.4%		38.9%
Total for Administrative Region	Urban	59.7%		75.0%		34.3%		88.3%	
	Rural		5.0%		12.8%		16.3%		40.3%

Source: 1994 Census

New programs to provide infrastructure and community facilities to rural areas have been undertaken by the government since 1994, which makes the above-presented census data somewhat outdated. Despite these efforts and improvements, the size of the deficits continue largely because of the growing magnitude of unauthorized, substandard housing.

Substandard Housing in the Region

According to the census of 1994, close to 12 percent of the urban households in the Souss-Massa River Basin occupied housing units categorized as bidonville or rural housing. The percentage for these two types of housing reached 25 percent in the largely rural prefecture of Chtouka Aït Baha and 21 percent in the urban prefecture of Agadir Idaoutanane.

In addition to shantytowns located on the urban peripheries, and very dispersed and unserviced rural-type housing units, numerous neighborhoods of modern Moroccan houses can also be considered as underserviced in terms of urban infrastructure for potable water supply, liquid and solid waste removal, etc.

While it would have been possible with more time to obtain detailed data on the subject of substandard housing in Greater Agadir, the lack of urban infrastructure is an even greater problem in the numerous centers and residential neighborhoods in the river basin outside of the Greater Agadir area.

Extent and Diversity of the Phenomenon

Faced with the rapid development of the city of Agadir after the earthquake of 1961, the region has experienced very substantial, uncontrolled growth of peripheral areas around Agadir, including numerous underserviced neighborhoods, such as Taddert at Anza, Souiri in Tikiouine, and Tarrast in Inezgane. The

most important infrastructure deficiencies in these substandard housing areas concern potable water and sanitation.

The growing presence of bidonvilles, already well established in the area, is what most degrades the urban landscape of Greater Agadir. If the phenomenon of bidonvilles is not new, there has been a proliferation of precarious housing construction in the area since 1960. The situation has become alarming, since the last survey of bidonvilles showed that the number of bidonville households had increased by some 34 percent between 1989 and 1992 (from 9,350 households to 12,530 households). As a result of this growth, Greater Agadir occupied the third highest position among Moroccan cities in terms of the concentration of bidonvilles (after Casablanca and Rabat-Sale). Increased administrative control over existing bidonvilles the last few years appears to have kept their number in check since 1992. The growth in unauthorized housing also seems to have shifted in favor of "clandestine housing" or underserviced housing areas built out of solid materials.

Table 4.23
Shantytowns and Unauthorized Housing in Greater Agadir

	Shantytowns 1992		Substandard Housing	
Municipalities	Number of Shantytowns	Number of Households	Number of Neighborhoods	Number of Housing Units
Agadir	28	4,170	0	0
Anza	15	3,090	1	1,200
Tikiouine	16	1,970	2	2,400
Ben Sergao	10	1,810	1	1,250
Aït Melloul	2	1,090	3	860
Inezgane	6	400	1	3,800
Dcheïra	0	0	1	850
Total	77	12,530	9	10,360

AAGR = Average annual growth rate

The phenomenon of substandard housing can be explained by strong rural urban migration due as much to the successive periods of drought that have occurred since 1985 as to the attraction that Greater Agadir exerts as an economic pole of development. It can be further explained by the paradoxical nature of the residential land development within Agadir's immediate area of influence. While public ownership of land predominates, there is an insufficient production of lots affordable to low-income households. This lack of affordable serviced plots has led to the elaboration of a new strategy by the Ministry of Housing and ANHI that began in 1989.

Absorption Program for Substandard Housing

Faced with the further proliferation of bidonvilles, public authorities in Greater Agadir have taken a number of actions to redress this situation. Despite these efforts, specific projects undertaken since 1960 were not able to stop the spread of bidonvilles. Their continued growth since 1989 having become particularly worrisome, ANHI, in collaboration with the other agencies under the Ministry of Housing (e.g., ERAC and SNEC), adopted a long-term action strategy for Greater Agadir. This two-pronged strategy was based on the prevention of substandard housing by the development of serviced plots affordable to low-

income families (their corresponding needs being on the order of 1,500 plots per year) and on the full integration of existing bidonvilles into the city through a diversified set of interventions.

These actions have been included as part of upgrading projects in the most important underserviced urban neighborhoods in the Greater Agadir area. There are now 19 housing projects being implemented according to this approach, of which 10 are already in the process of housing consolidation, 4 are being developed, and 5 are under preparation. These projects total almost 950 hectares and offer close to 3,000 serviced plots. The project of Bikarran should also be considered as part of this effort, since it will rehouse some 4,000 bidonville households.

Other housing programs will permit the rehousing of bidonville households (for 12,500 households), provide serviced plots for low-income families (35 percent of the total), and offer plots to be sold at market prices (25 percent of the total). Part of the low-income serviced plots may also be used to rehouse new bidonville households, if this becomes necessary, based on the identification of beneficiaries in bidonvilles not yet addressed.

Concerning its projects with USAID, ANHI began work in Greater Agadir with efforts to rehouse bidonville households (R'Mel in Inezgane, Marins-Pecheurs in Agadir, and Zaitoune in Tikiouine) using financing from HG-003. The problems encountered during the implementation of these three projects and the new approaches developed by ANHI to resolve them have provided valuable lessons and information that can be used in the implementation of other projects and programs in the Greater Agadir area.

Operation R'Mel was a project that highlighted concerns about social integration. The objective was to create a neighborhood that would be socially integrated and sustainable. As the final result, the project permitted roughly 1,000 bidonville households to access basic public services to their housing units and to improve neighborhood living conditions. It also permitted a number of bidonville households to profit from the creation of employment generated by infrastructure works and by the construction of self-help housing aided by micro-enterprise formation.

Table 4.24
Serviced Plots and Housing Programs for Bidonville Dwellers and Others

Project Name	Location	Agency	Type of Project	Area (hectares)	Beneficiaries Bidonville	Beneficiaries Others	Status
Jihadia	Dcheïra	ERAC	Serviced Sites	70.6	423	1302	Post Project Improvement
Admine	Aït Melloul	ERAC	Serviced Sites	32.0	103	718	Post Project Improvement
R'Mel	Inezgane	ANHI	Serviced Sites	72.5	1031	564	Post Project Improvement
Houda	Agadir	ERAC	Serviced Sites	190.0	903	3131	Post Project Improvement
Zaïtoune	Tikiouine	ANHI	Serviced Sites	71.6	662	1928	Post Project Improvement
Assaka	Tikiouine	ANHI	Serviced Sites	46.7	500	886	Post Project Improvement
Rjafallah 2	Agadir	ERAC	Construction	3.6	204	0	Post Project Improvement
Rjafallah 1	Agadir	ERAC	Construction	1.8	131	0	Post Project Improvement
Sidi Youssef 1	Agadir	ERAC	Construction	5.5	340	0	Post Project Improvement
Sidi Youssef 2	Agadir	ERAC	Construction	0.4	42	0	Post Project Improvement
Marins-Pêcheurs	Agadir	ANHI	Construction	7.5	175	233	Under Completion
Al Wifaq	Ben Sergao	ERAC	Serviced Sites	51.0	803	1323	Under Completion
Argana	Aït Melloul	SNEC	Serviced Sites	45.8	435	1186	Under Completion
Rjafallah 3	Agadir	ERAC	Construction	1.4	100	100	Under Construction
Sidi Youssef 3	Agadir	ERAC	Construction	1.3	100	0	Under Study
Rjafallah 4	Agadir	ERAC	Construction	4.2	329	0	Under Study
Sidi Youssef 4	Agadir	ERAC	Construction	4.2	333	0	Under Study
Adrar	Tikiouine	ANHI	Serviced Sites	190.0	2400	4700	Under Study
Bikkaren	Agadir	ANHI	Serviced Sites	150.0	3500	2281	Under Study
Total				950.1	12514	18352	

AAGR = Average annual growth rate

For the project Marins-Pecheurs, ANHI developed a new approach by which to rehouse bidonville inhabitants in individual and semi-finished housing units. Particular consideration was given to the physical, social, and political aspects of the project. The adopted technical approach involved the construction of semi-finished housing units to rehouse bidonville inhabitants in their same neighborhoods. The approach was made possible through the application of cross-subsidies obtained from the market sale of middle-income apartments in multifamily buildings developed by ANHI and from the subdivision of land for apartment buildings subsequently built by the private sector. Both of these later outputs were destined for families with higher incomes.

Like the project in R'Mel, the adopted project approach required close collaboration with residents in order to ensure their cooperation and acceptance of the final results.

The integrated project of Tikiouine made use of the lessons learned from the implementation of the two previous projects for R'Mel and Marins-Pecheurs. The specific nature of the project involved intervening in an expanding neighborhood that presented serious problems related to bidonvilles and underserviced neighborhoods. ANHI is in the process of developing an integrated program that includes serviced plots for low-income families and rehousing for the social integration of the bidonville neighborhoods and families with medium incomes. All of the activities are to be undertaken with the participation of the community.

The anticipated effects obtained by implementing such a vast program go well beyond the preoccupa tions of simply preventing substandard housing and improving housing conditions for roughly 15 percent of Greater Agadir's population. Equally important are the effects that these programs have on employment generation and on the improvement of incomes for the target group, comprised to a large extent of actual and potential bidonville inhabitants.

Over the past two or three years, ANHI in collaboration with USAID has worked to increase community participation in the upgrading of substandard neighborhoods in the region. A pilot project to this effect is now under way in Ouled Teima.

J. Urbanization and the Environment in Souss-Massa

This section examines the interaction between urbanization and the environment in the Souss-Massa river basin, with particular emphasis on urban environmental services, such as water supply, wastewater, and solid waste management.

2. Geophysical Profile

Geography

The Souss-Massa river basin covers an area of roughly 23,000 square kilometers along the Atlantic coast in south-central Morocco. The basin is composed of the valleys of the Souss and Massa rivers, the southern slope of the Upper Atlas mountains east to Mount Toubkal, and the northern slope of the Anti-Atlas mountains to the south.

The Upper Atlas, which rise to over 4,000 meters east of the Tizi N'Test pass, are a much more dominant presence in the valley than the lower (below 2,500 meters) and flatter Anti-Atlas mountains on its southern side. The two ranges are joined at the head of the valley at Siroua, which separates the Souss-Massa river basin from the Draa basin to the northeast.

The Souss valley, by far the larger of the two river valleys, is in turn made up of the following areas:

- Upper Souss: between Aoulouz, where the river breaks out of the mountains and enters the plain below, and Taroudannt, ancient capital of the Souss region;
- Middle Souss: between Taroudannt and the convergence of the Souss and Issen rivers, where the valley opens up to a width of about 40 kilometers just downstream from Taroudannt; and
- Lower Souss: from the Issen to the Atlantic.

The slope of the valley, from southwest to northeast, increases from 3 percent in the lower and middle Souss to 5 percent between Taroudannt and Loulija up to 10 percent between Loulija and Aoulouz.[1] Slopes between the Souss River toward the foothills of the Anti-Atlas begin at 6 percent and climb to 12 percent, whereas those between the Souss and the foothills of the Upper Atlas range from 9 to 15 percent.

The very even and graceful sloping quality of the valley is largely the result of the alternation between rainy and dry periods that affected all of Morocco during the Ice Age. While the rainy periods brought sediment down from the surrounding mountains, the generalized flooding that occurred during the rainy seasons, which lasted for decades, spread the sediment out very evenly across the floor of the valley. Even today, changes in ground level adjacent to the river rarely exceed five meters.

The coastal area is characterized by steep hills where the Upper Atlas meet the Atlantic. Beginning in Agadir, wide strips of coastal dunes extend toward the south, varying in height from 40 meters at the outlet of the Souss to 100 meters at Tifnit.

Geology

The Upper Atlas and Anti-Atlas mountains are composed primarily of sedimentary rocks, such as limestone and dolomite. The hardness of these rocks limits erosion. In some areas — in particular the high

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Dijon, 1972.

valleys west of the Tizi N'Test pass — softer marl deposits and Triassic clay tend to encourage erosion, leading to silting of the streams that run down the valley.

The valley floor is part of the Precambrian platform and was part of the larger El Jadida-Agadir valley until the collision between Europe and Africa caused the rise of the Upper Atlas mountains. The valley is composed of alluvial and clay soils, with the exception of the sandy dunes that line the coast.

Climate

The Souss-Massa basin owes its somewhat temperate climate to the mountain ranges, which channel water through it and act as a buffer between the valley and the desert to the east. Rainfall is fairly low at 280 millimeters yearly in the Souss valley and 265 mm in the Massa valley. Like in other coastal plains in Morocco, winters tend to be rainy, while the summer is hot and dry. Average temperatures vary from 14°C in the Upper Atlas to 20°C in the Souss valley and the northern slopes of the Anti-Atlas.

Hydrology

The main surface water resources are the Souss and Massa rivers, as well as their tributaries, which originate in the Upper Atlas and Anti-Atlas mountains. The Tifnoute, Immerguène, and Oumzaourou rivers combine to form the Souss River above Aoulouz. While the Tifnoute comes off of Mount Toubkal, the Immerguène drains the upper limestone plateaus of the Anti-Atlas. Between the two, the Oumzaourou collects water from the western slope of the Siroua. The convergence of the three rivers above Aoulouz explains the width of the gorge (over 300 meters) as well as the heavy volume that flows through it during the rainy season.

Streams that flow into the Souss from the Upper Atlas include the Lemdad, Targa, Talekjount, and Issen. The narrow gorges that these streams have carved out of hard limestone at higher altitudes tend to give way to wider basins set in the softer schist and clay soils in the foothills below. Most of the tributaries flow due south out of the mountains and into the plain, then bend toward the west before joining the Souss River. On the Anti-Atlas side, some of the weaker streams — including the Imaoun, Tangarfa, Arrhène, and Aouerga — are completely drained by agricultural and other water users by the time they reach the Souss. Where streams from either bank have over the years deposited large volumes of water into the Souss, a widening of the river bed can be observed.

Groundwater resources in the basin, which represent 6 percent of national groundwater resources, are concentrated in the aquifers adjacent to and recharged by the Souss and Massa rivers. While these rivers and their tributaries are seasonal, there are a number of year-round water sources in the river beds that are fed by perennial streams and/or springs. Many springs are also found in the foothills on both sides of the valley; a 1972 study estimated the total flow of the Anti-Atlas springs at 350 liters per second, that of the Upper Atlas springs at 600 liters per second.[2]

4. Development-Environment Interactions

Water Supply

According to the *Direction Régionale de l'Hydraulique* in Agadir, estimates of annual surface water resources in the Souss-Massa basin vary from 341 millions of cubic meters (Mm^3) to 635 Mm^3. Groundwater resources are about 450 Mm^3 annually. Estimates of total average water resources therefore range from 794 Mm^3 to 1,085 Mm^3 per year.

Dijon, 1972.

Variations in both types of resources from year to year are great. The recorded minimum for surface water is 35 Mm^3 in 1960/61, while the maximum is 2,160 Mm^3 in 1962/63. Inflow of groundwater was estimated at only 250 Mm^3 in 1992/93.

Surface water is mobilized through four major dams: Abdelmoumem, Youssef Ben Tachfine, Aoulouz, and Imi El Kheng, with a total combined capacity of 642 Mm^3. Capacity and actual mobilization of water for each of the four dams is shown in Table 4.25.

Table 4.25
Capacity and Output of Major Dams in the Souss-Massa River Basin

River Basin	Dam	River	Normal Retention (Mm^3)	Average Volume Supplied		
				Potable	Irrigation	Recharge
Souss	Abdelnoumem	Issen	213	9.5	41	
	Aoulouz	Souss	110		14	72
	Imi el Kheng	Talekjoumt	12		1.6	8
Massa	Youssef ben Tachfime	Massa	304	1.5	63	
TOTAL			639	11	120	80

Total water consumption in the river basin is approximately 965 Mm^3 annually, or 120 liters per person. Six hundred fifty Mm^3 of groundwater and 315 Mm^3 of surface water are consumed. Of the total, 915 Mm^3 (95 percent) are used for irrigation, while 50 Mm^3 (5 percent) are consumed by urban and industrial users (Figure 4.5).

Extraction of groundwater has exceeded annual recharge for decades. Over the 1968-1986 period, annual average consumption was 630 Mm^3, while recharge (inflow from rain and surface water) was only 414 Mm^3. This produced an average annual deficit of 216 Mm^3. Over the 1986-1994 period, the annual deficit averaged 260 Mm^3, resulting in a lowering of the aquifer by an average of 1.5 meters a year during the 1990s.

Demand for potable water (including industrial uses) is projected to rise to 56 Mm^3 in 2000 and 120 Mm^3 in 2020, a 240 percent increase over 22 years, or 4.1 percent annually. Demand for water for irrigation is projected to increase to 1,000 Mm^3 in 2000 and 1,075 Mm^3 in 2020. This 160 Mm^3 increase represents only a 17 percent rise over current consumption, or a 0.7 percent annual increase over the period. At the regional level as at the national level, although absolute increases in water requirements for irrigation will be greater, the urban sector will, in relative terms, put more pressure on existing water supplies than any other sector in the decades to come.

Figure 4.5
Dams and Irrigated Agriculture in the Souss-Massa River Basin

The main problem in the water sector is therefore rising demand in the face of relatively static supply. Since flow of the Souss is irregular and that of Atlas mountain water courses relatively weak, little additional supply can be mobilized by new investments. The key to maintaining equilibrium will therefore be demand management, as evidenced in the DRH's three-point water sector strategy.

- Manage demand by sensitizing users to the need to consume less water:
  - Agro users: Encourage the use of more efficient irrigation technology, including drip irrigation. Applies to existing and new irrigated areas.
  - Urban users: Encourage major urban users to consume less water and to use well water for certain uses for which high salt content is acceptable, e.g., pool water (hotels) and watering public open spaces (municipalities). DRH began to sensitize these types of users during the drought years earlier this decade, with good results.
- Recharge the aquifer: The Aoulouz dam, which retains water from the Souss at the point where it enters the valley, currently diverts 100 Mm^3 annually into the aquifer.
- Reuse wastewater: One USAID-assisted pilot project in wastewater reuse is currently being carried out in Ben Sergao and another is planned in Drarga.

The draft water plan for the river basin includes the above points and also emphasizes (1) the construction of five small dams for potable water mobilization and aquifer recharge and (2) introduction of regulatory restrictions and financial incentives to support demand management efforts.

In the potable water sector, the main distributors are the *Régie Autonome* of Greater Agadir (RAMSA), ONEP, and the municipalities. RAMSA is responsible for water and wastewater services throughout Greater Agadir, which, with an estimated population of 500,000 in 1994, includes the Municipalities of Agadir, Anza, Bensergao, Dcheira, Inezgane, Tikiouine, and Aït Melloul. Eighty-five percent of households in the RAMSA service area have a private or shared connection to the piped water supply network. Thirteen percent are served by standpipes, while 2 percent have no potable water service. The total length of the network is 1,074 kilometers. In 1996, 21.37 million Mm^3 of water entered the network; of this amount, 17.7 million Mm^3 was consumed by RAMSA clients, leaving 17.5 percent unaccounted for. Annual consumption is projected to rise to 23.4 Mm^3 by 2000 and to 38.0 Mm^3 by 2010.

RAMSA's major sources of income in the water sector include user fees and connection charges. Domestic user fees range from 2.62 DH to 5.92 DH to 7.55 DH per cubic meter for monthly consumption in the 0-24 m^3, 24-60 m^3, and more than 60 m^3 ranges, respectively. Industrial users pay 5.12 DH per cubic meter. Base charges are 30 DH per year for domestic users, 74 DH per year for industrial users. Connection charges are 562.39 DH per dwelling unit, not including 14 percent tax, for gravity-fed systems; for pressurized systems, charges are 674.87 DH per dwelling unit before taxes. RAMSA reduces charges to cover the costs of studies in the case of some low-income housing projects. Other sources of revenue include developer exactions for off-site infrastructure, such as distribution mains, pumping stations, reservoirs, etc. These are levied at 13.51 DH per square meter of gross development area.

Income that RAMSA collects from these sources is sufficient to cover its costs. As shown in Table 4.26, revenues from connection charges, user fees, and other levies, such as special fees for off-site mains, have been roughly equal to expenditures, including investment and debt service, over the 1995-1997 period. This level of cost recovery is a key element in RAMSA's ability to meet metropolitan water needs over the medium and long term. The table also indicates that annual investments are consistently equal to about half of operation and maintenance (O&M) costs, which indicates that RAMSA's water program is not undergoing an aggressive expansion, having already reached the respectable connection rate of 85 percent. Debt service is fairly small in relation to total expenditures, indicating that the agency is able to use own-source revenue to finance most of its operations.

Table 4.26
RAMSA Balance Sheet Summary in the Water Sector, 1995-1997
(000s DH)

Line Item	1995	1996	1997	Average
Expenditures				
Investment	42,606	65,636	27,116	45,119
Operation and Maintenance	84,667	106,215	112,692	101,191
Debt Service				
Interest	1,071	976	813	953
Capital	2,055	2,161	2,235	2,150
Subtotal	130,399	174,988	142,856	149,414
Revenues				
Connection Charges	27,235	91,454	27,017	48,569
User Fees	89,029	93,008	97,112	93,050
Other	6,788	15,910	12,861	11,853
Subtotal	123,052	200,372	136,990	153,471
Revenues/Expenditures	94%	115%	96%	102%

The other major institutional player in the potable water sector in the basin is ONEP. Consistent with its mission to provide water distribution services in small and medium-sized towns, ONEP serves about one-half of the population of the built-up area between Greater Agadir and Taroudannt. ONEP intervenes as a *maître d'ouvrage délégué*, or concessionaire, responsible for providing water services and authorized to collect fees directly from end users. The municipality retains overall responsibility for service provision as the owner of the network.

ONEP began its regional water distribution role in Taroudannt in the 1970s. Since then, ONEP has taken over Oulad Teima, Taroudannt, Taliouine, Oulad Berrehil, Aït Iazza, and Biougra in the Souss basin. ONEP towns in the Massa basin include Sis Ifra, Massa, Ras Muka, and Mirlift. Coverage levels in ONEP are typical of those in small and medium towns throughout Morocco and are generally in the 65 percent to 75 percent range.

Towns in which neither RAMSA nor ONEP is active provide their own drinking water. These towns generally include the smaller urban municipalities and many of the rural municipalities. The coverage levels of municipal networks are generally lower than those of ONEP-managed networks, typically reaching only 50 to 70 percent of households. The majority of the remainder are served by standposts. Extensions to the piped system are often done by neighborhood associations, then tied into the network by the municipality.

Investment levels in municipally managed water systems are generally very low on a per capita basis. Concerned about their electorate's negative perceptions of raising water tariffs, municipal administrations are reluctant to bring rates up to a level where self-financed investments could begin to keep up with rates of urbanization. Municipal reluctance to mobilize additional financial resources, either through borrowing or increased user charges, has also led many towns to elect not to ask ONEP to take over their water systems, since a degree of municipal participation in investment costs is required. As a result, after an initial surge in the 1970s, the rate of municipal participation in the ONEP program declined during the 1980s, leading to a slowdown in water service improvement throughout the region.

Wastewater

As in other regions in Morocco, wastewater collection and treatment lags way behind drinking water provision. Collections levels are relatively good in Greater Agadir, but drop quickly with decrease in city size outside the RAMSA service area. Almost none of the collected wastewater is treated. Although the depth of the aquifer tends to limit groundwater pollution, discharge of untreated wastewater in river beds poses a threat to the health of local residents.

RAMSA reports that 75 percent of the population of Greater Agadir is connected to the piped sewerage system. Another 13 percent have private on-plot or local collective facilities, while 12 percent have no waste disposal system at all. Total length of the piped network is 750 kilometers, or just under three-quarters the length of the water system. The network is combined, except in the tourist area adjacent to the beach in Agadir, where stormwater and wastewater are separated.

Of the 15.3 million cubic meters of wastewater collected yearly, only a very small portion is treated by the experimental Ben Sergao wastewater treatment plant. The remainder is discharged into the Atlantic (Agadir and Anza) or the Souss River (Inezgane, Dcheira, Aït Melloul, and Tikiouine). The Agadir outfall is located between the two ports, less than one kilometer upstream from the main tourist bathing area. Almost 5,000 tons of BOD (biological oxygen demand) are discharged into the natural environment yearly. Table 4.27 shows RAMSA projections of future wastewater volumes in the two service zones. Average increases of 150 percent in the southern zone and almost 300 percent in the northern zone highlight the importance of developing wastewater treatment facilities.

Table 4.27
RAMSA Balance Sheet Summary in the Wastewater Sector, 1995-1997
(000s DH)

Line Item	1995	1996	1997	Average
Expenditures				
Investment	5,258	60,119	10,444	25,274
Operation and Maintenance	11,433	23,916	26,420	20,590
Debt Service				
Interest	593	560	553	569
Capital	706	696	781	728
Subtotal	17,990	85,291	38,198	47,160
Revenues				
Connection Charges	85,589	102,769	37,311	75,223
User Fees	21,126	19,816	19,980	20,307
Other	6,042	18,158	14,559	12,920
Subtotal	112,757	140,743	71,850	108,450
Revenues/Expenditures	627%	165%	188%	327%

RAMSA began preparation of the Greater Agadir Sewerage Master Plan in 1988, but because of opposition to planned construction of a wastewater treatment plant in the Mzar dunes, approval was not obtained until 1995. The first phase of the plan is now under implementation. The Agadir-Souss collector is currently under construction, as are other segments that are tying together the sub-networks in different parts of the metropolitan area. Construction of the treatment plant is scheduled to begin in early 1999 and

be complete by the end of 2001.

The new Mzar plant will employ a sand filtration method similar to that of the existing Ben Sergao experimental plant. Ben Sergao treats 750 cubic meters of wastewater daily. Initial separation of sludge and water takes place in a lagoon (two days). The outflow then passes to five filtration ponds, where it is filtered through deep sand pits. The assessment of the Ben Sergao plant carried out by RAMSA confirmed a strong performance in reduction of biological pollution. Moreover, the sand filtration method requires one-third the surface area of traditional lagoons and is cheaper where sand is readily available. Hence the location of the Mzar plant in the dunes near the mouth of the Souss River.

Although the city of Drarga, with USAID assistance, is planning to build treatment facilities, Ben Sergao is currently the only wastewater treatment plant in the Souss-Massa river basin, and it treats only 0.5 percent of the wastewater collected in the region. The remaining 50 million cubic meters annually is discharged directly into the surface water system (interior towns) or the ocean (coastal towns).

RAMSA financial performance in the wastewater sector is summarized in Table 4.28. The high ratio of revenues to expenditures, averaging over 3:1 during the period 1995-1997, shows that the agency is generating substantial funding to pay for its ambitious system improvements. Variations in investment costs from year to year are less a function of an uneven investment program than a reflection of RAMSA's accounting practice of including the total estimated cost of all new networks hooked up to the system in both the "investment" line item and the "connection charges"[3] line item. Most of these local networks are built by developers; some are built by neighborhood associations. In neither case does RAMSA pay for the investment. The two corresponding line items in the balance sheet do not therefore provide an accurate account of actual income from services provided to customers. Nevertheless, the table shows that developer exactions and other charges levied by RAMSA are mobilizing substantial amounts of additional capital, which can be used to pay for new investments.

Table 4.28
RAMSA Balance Sheet in the Wastewater Sector, 1995-1997
(000s DH)

Line Item	1995	1996	1997	Average
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Other	6,042	18,158	14,559	12,920
Subtotal	112,757	140,743	71,850	108,450

Taxe de premier établissement.

Revenues/Expenditures	627%	165%	188%	327%

Reuse of wastewater is not widespread in the region. This practice is illegal for untreated wastewater. The height of the banks of the Souss makes it difficult for farmers to extract river water for irrigation, both because the cost of a pump would be prohibitive and because the pump would be easily visible to the authorities. Nevertheless, illegal reuse of wastewater for irrigation is known to take place in certain areas of the basin, including Oulad Teima. While some of this wastewater is for used to irrigate food crops, much of it is also used on non-food crops, such as reeds.

ONEP began to be active in the wastewater sector in Souss-Massa in 1993. To date, only two towns, Oulad Teima and Biougra, have concluded agreements with ONEP to provide wastewater services. ONEP will assume the role of concessionaire, as it does in the water sector, with responsibility for making required improvements and managing the system and authority to collect fees and charges directly from end users. The municipalities remain owners of the system.

In Oulad Teima and Biougra, initial technical and financial studies have been carried out. Investments are now being planned and programmed. Although progress has been slow to date, ONEP reports that demand for intervention in the wastewater sector is stronger than in the water sector, mostly because the potential clientele is limited to towns where ONEP is already providing water services and ONEP and the local administration therefore already have a working relationship.

Under the ONEP formula, local governments must cover 30 percent of the cost of liquid waste improvements. The balance is funded by ONEP through its budget allocations or through international assistance programs. The wastewater tariff is designed to cover, at a minimum, the cost of system operation and maintenance.

ONEP requires that some form of treatment be designed and implemented in all districts receiving a piped wastewater collection system. Systems do not necessarily have to involve sewage treatment plants; local collective facilities, such as communal septic tanks, are also an alternative. However, ONEP does not require that wastewater services be provided in all districts receiving potable water hook-ups. There is no systematic linking of water and wastewater services. This isolated treatment of the two sectors allows the urban water provision to continue to make strong advances in coverage and service level without corresponding improvements in the area of wastewater collection and treatment.

Given RAMSA's limited geographical scope and the slow pace of ONEP's urban wastewater program, most liquid waste services in the Souss-Massa basin continue to be delivered by local governments. In the larger towns, old combined piped systems often serve the urban core, while peripheral areas rely on on-plot solutions or have no wastewater services. No basin-wide coverage figures are available, but interviews with ONEP personnel and municipal technical staff indicate that coverages in small and medium-sized towns, including those located along the Souss between Agadir and Taroudannt, are in the 30-50 percent range. Many of the networks are subject to blocking in the dry season (sand penetration through street drains) and overflow during the wet season (underdimensioned combined networks dating from the colonial period). None of the collected wastewater is treated. Wastewater is generally dumped in river or stream beds in the interior and into the ocean along the coast. The impact on public health is discussed below.

Solid Waste Management

Solid waste collection in urban areas is carried out by local governments in core areas of large and medium-sized towns and by private hand-drawn cart operators in most peripheral neighborhoods and small

towns. No region-wide collection figures are available, but conversations with municipal technical departments indicate that, on average, between 70 and 90 percent of the population is served, of which two-thirds benefit from municipally provided service. Coverages vary greatly between the larger urban municipalities (where 50-80 percent of the population receives municipal collection service) and the rural municipalities, in which service is often provided by private hand-drawn carts.

Greater Agadir has the only “sanitary landfill” in the Souss-Massa basin. Although designed as such, the facility as constructed and operated fails to live up to the term. The site is not fenced, and the waste is not systematically covered with earth. Garbage burning is common, and the site is home to a large scavenger population. A large regional compost facility was built with European bilateral assistance, but the unit is experiencing start-up problems, including poor product quality. A recent visit to the site confirmed that the key equipment has not been operated for weeks due to lack of O&M funding. Some specialists have observed that the equipment is unnecessarily complex for a solid waste chain in which most sorting takes place upstream in response to the strong recycling market.

A smaller pilot compost operation has been proposed under the USAID-financed Water Resources Sustainability project. The pilot operation will combine domestic waste and agricultural waste to make an agricultural grade compost. The feasibility study concluded that, in the greenhouse vegetable sector, demand for compost is on the rise as more and more farmers shift away from local manure and chemical fertilizers.

With the exception of the Greater Agadir landfill, all solid waste collected in the Souss-Massa is deposited in uncontrolled dumpsites. Dumping in river beds is common and has been observed in Oulad Teima and other towns along the Souss. While the depth of the aquifer in the Souss valley (generally in the 50-200 meter range) limits groundwater contamination from leachate, dumping in the river beds clearly poses a surface water pollution problem. It is also an aesthetic problem for down-river towns and for Agadir, where refuse washes up on the beach during the rainy season.

Public Health

While public health data are not collected by watershed in Morocco, provincial and regional data provide some insight into the impact of urbanization on public health. Table 4.29 shows the incidence of diarrhea in 1994, 1995, and 1996 by selected geographic areas. While the national incidence declined by 17 percent from 1994 to 1995 and 18 percent from 1995 to 1996, corresponding decreases in Agadir Province were higher at 65 percent and 24 percent, respectively. If the national drop was mostly the result of recovery from the 1994 drought, then it is logical that in a relatively dry region like Agadir, the reduction in diarrhea would be even greater as the supply of water became more abundant. In both Taroudannt Province and the Southern Region as a whole, however, after an initial drop in 1995 diarrhea levels remained close to constant in 1996. In the city of Taroudannt, in fact, incidence increased by 42 percent, suggesting that other non-drought factors were contributing to the spread of bacteria or virus.

Table 4.29
Incidence of Diarrhea by Selected Regions, 1994-1996

New Cases of Diarrhea

	Total			Rural			Urban			% Change, Total		% Change, Urban	
Region	1994	1995	1996	1994	1995	1996	1994	1995	1996	1994-95	1995-96	1994-95	1995-96
Agadir Province	29,283	10,657	8,406	16,694	7,786	3,676	12,589	5,871	4,730	-64%	-21%	-53%	-19%
Taroudannt Province	33,920	23,801	23,547	29,705	21,483	20,142	4,215	2,318	3,405	-30%	-1%	-45%	47%
Southern Region	151,777	113,491	105,358	108,530	81,823	76,121	43,247	31,668	29,237	-25%	-7%	-27%	-8%
National	1,057,995	890,249	741,024	651,488	550,883	447,318	406,467	339,366	293,706	-16%	-17%	-17%	-13%

New Cases/1000 Population

	Total			Rural			Urban			% Change, Total		% Change, Urban	
Region	1994	1995	1996	1994	1995	1996	1994	1995	1996	1994-95	1995-96	1994-95	1995-96
Agadir Province	0.80	.28	.22	1.62	0.46	0.35	0.48	0.22	0.17	-65%	-24%	-55%	-23%
Taroudannt Province	0.49	0.34	0.33	0.53	0.38	0.36	0.31	0.17	0.24	-30%	-2%	-47%	42%
Southern Region	0.47	0.35	0.31	0.57	0.42	0.39	0.33	0.23	0.21	-26%	09%	-29%	-12%
National	0.41	0.34	0.28	0.51	0.43	0.35	0.30	0.25	0.21	-17%	-18%	-18%	-16%

One of the main factors contributing to the spread of diarrhea is fecal contamination of drinking water. This is a major health concern in the Souss-Massa basin to the extent that (1) wastewater collection systems are underdeveloped, especially outside of Greater Agadir, and (2) wastewater treatment systems are almost nonexistent. Most wastewater in urban areas is either discharged untreated into the natural environment or disposed of in on-plot facilities, such as septic tanks and pit latrines. Both solutions have the potential to pollute groundwater resources and lead to outbreaks of diarrhea, cholera, typhoid fever, and other diseases.

In the Souss-Massa valley, however, the depth of the aquifer serves to limit the impact of poor wastewater management on the quality of groundwater. In most areas throughout the valley, the aquifer is at least 50 meters deep; in some places it is 200 meters deep. Given the low amount of precipitation and the distance that wastewater would have to travel to reach the aquifer, relatively little contamination results from direct seepage. This natural attribute also applies to the solid waste sector. Although no garbage in the valley is disposed of in a truly sanitary landfill, the unsanitary disposal practice results in little direct contamination of the aquifer.

The annual water quality survey carried out by the *Direction Générale de l'Hydraulique* in 1994 indicated that 58 percent of sampled areas throughout the Souss-Massa had high quality groundwater, 17 percent had moderate quality, and the rest had low quality water. The areas with low-quality water were Anza, the area just west of Oulad Teima along the Souss, and two points along the Massa river. These data suggest that while the depth of the aquifer may limit contamination, some pollution from urban or industrial activities is making its way into groundwater supplies. In addition, high levels of nitrate observed in some areas indicate that fertilizers are contaminating some aquifers.

Poor liquid and solid waste management practices have a more direct impact on surface water quality. As noted above, many towns dump untreated wastewater into river and stream beds throughout the year. Others dump municipal solid waste into river beds. When the seasonal rivers begin to flow, the waste is carried downstream by the river water. While some of it is eventually carried out to sea, other waste penetrates the ground with the river water and enters the aquifer below. In the process of recharging the aquifer, therefore, the polluted river contaminates groundwater supplies. While specific data linking the incidence of water-borne diseases to solid and liquid waste pollution are not readily available, this phenomenon certainly contributes to some degree to the deterioration of public health, especially among the population of towns located along the Souss and Massa rivers.

L. Regional-Level Synthesis

The Souss-Massa River Basin is a well-defined area that is a virtual microcosm of recent urbanization and urban development trends and issues found throughout Morocco. The region comprises the major seaport and tourism area of Agadir, industrial and agro-processing industries in the plains of the Souss and Massa rivers, and remote mountain and resource-poor marginal areas that serve as the major sources of rural-urban migration.

The pattern of urbanization in the region is a recent reflection of the overall development process that the country has experienced since the time of the Protectorate. It includes large-scale modern investment and development along the coast, major rural-urban migration and displacement of the population toward this development, rapid uncontrolled urban growth and agricultural change in the hinterland around the coastal area, and stagnation and/or deterioration of traditional cities and rural areas in the interior.

The number of cities in the region increased from 9 to 20 between 1971 and 1994. Cities with more than 50,000 inhabitants grew in number from one (Agadir) to five (Agadir-Anza, Inezgane, Aït Melloul, Dcheira, and Taroudannt), all of which but Taroudannt are located in the Greater Agadir area. The number

and sizes of smaller cities located along national highways and the Souss River have also increased. Good roads and adequate transportation facilities allow many people living in these newly emerging urban areas to commute to work in the Greater Agadir area.

The Souss-Massa River Basin has historically had a very mobile population with high levels of both temporary and permanent migration to other parts of Morocco and foreign countries. Possibilities for migration out of the region, however, have diminished, resulting in greater internal migration within the region itself. Remittances provide one source of funds to facilitate the move from rural to urban or semi-urban areas and to acquire a rudimentary dwelling unit on a very small, inexpensive plot of unserviced land. As rural areas on the urban fringe begin to urbanize, the urban population becomes increasing rural in its basic characteristics and behavior. The result is a part-urban, part-rural transitional environment that suffers from the lack of coherent development and coordination. Overall land use in these semi-urban areas is rather poor and inefficient with a noticeable negative impact on the social and physical environment. The lower land values, good road access, and potential for combining part-time agricultural work with some paid informal or seasonal work continue to make these areas very attractive to low-income migrants.

Despite the somewhat discouraging results, urban development within the region has followed a very logical course. Significant investments in the reconstruction of Agadir and tourism development following the earthquake of 1961 created the need for manual workers and started a strong process of rural-urban migration within the region. The very planned and controlled development of Agadir, and the high land and housing prices that accompanied this approach, made it very difficult for low-income workers to find housing within the city of Agadir itself. Most of them were obliged to settle in smaller and much weaker municipalities located on the periphery of Agadir. A pattern of urban development and growth was created that was common to other Moroccan cities as well. Uncontrolled urban growth on the peripheries of these smaller municipalities was essentially out of any legal jurisdiction and/or capacity to control. The small communes and municipalities on the periphery of major cities have generally been more concerned about increasing their population and economic activity than with the quality or type of development that takes place. The industrial area in Aït Melloul/Inezgane is a good example of municipality preference for jobs over environmental concerns. In any case, most of these areas are eventually incorporated into the larger city and put under its responsibility.

People have come to realize that if they build a house of solid materials on private land, even though it may be obtained without formal title or authorization, there is relatively little risk that they will lose their housing due to the lack of formal title.

Urban facilities and services have not been able to keep pace with urban growth and expansion, particularly in areas that are not formally and legally recognized. Only when public pressure becomes significant are these areas incorporated within the city boundaries. At such time, it is often too late to reserve the necessary land for future roads and facilities. The government has experienced considerable difficulty in applying its powers of eminent domain, and its various ministries have not had the financial resources to purchase necessary private sector land for public facilities.

In addition, institutional organization within the region has not able to cope with the area’s overall development. Part of the problem has been due to overlapping but different jurisdictions and lines of authority of government administration. The lack of financial resources for urban development has also led to a process of “decentralization by default” and greater participation by local community groups and/or associations in providing their own much-needed infrastructure and services. While the government’s official position toward these associations has been ambivalent, local community provision of infrastructure and services is increasingly being viewed as a necessary, if not entirely desirable, contribution to urban development. While government remains worried about its loss of control over urban growth and

development, its various agencies have generally been willing to allow the community to invest its own resources in the provision of infrastructure and urban services. Since there is no agency specifically devoted to the overall development of the region, most urban development activities have been ad hoc and opportunistic in nature, with little concern for about the broader or "downstream" effects of the decisions and actions being taken. Even the highly controlled development and use of resources in Agadir have provoked unforeseen and basically unintended development around the city due to the lack of a broader, more regional perspective.

Because of the region's size, economic activity, and rapid population growth, there is a very strong relationship between agriculture and urban development. The urban population in the river basin has increased 6.5 times over the 26-year period between 1971 and 1997. With a current growth rate of 6.5 percent, this population is likely to grow by another 3 to 4 times over the next 20 years. Close to 130,000 new urban households are anticipated during this period. Considerable increases in agricultural productivity and commercialized farming will be required in order to feed this population. Population increases are also likely to offset economic gains. A serious problem exists in the region concerning young, recent graduates from different educational levels who are seeking their first employment. Many of these educated workers have to wait more than a year to find a job.

Water is an obvious concern to both agricultural and urban development. The current situation is one of rising demand for water in the face of relatively static supply. Not much can be done to increase the supply of water in the region. Competition for water between agriculture and urban/industrial uses will therefore intensify. This situation will become increasingly difficult as the population more than doubles over the next 20 years and the need for irrigated agriculture significantly increases. It should be noted that the extraction of groundwater has exceeded recharge for several decades. Recently, this has been calculated as 630 Mm^3 used compared to 414 Mm^3 recharged, with the annual deficit being 216 Mm^3. The result of this situation has been a drop in the water table of some 1.5 meters during 1990s. Demand for potable water will more than double, from 50 Mm^3 to 120 Mm^3 by 2020, while the need for water for agricultural use will increase from 915 Mm^3 to a projected 1,075 Mm^3.

Sewage treatment lags far behind water provision and is an important concern for cities along the Souss River and other surface water. While growing efforts are being made to connect urban neighborhoods to sewage networks, a great deal remains to be done in terms of treatment. The same can be said for solid waste removal, which is generally unsatisfactory. Greater consideration is now being given to the potential of composting and using some of these products in greenhouses. The entire question of urban throughputs in fact needs to be examined and reconsidered.

IV. Urban Development in Aït Melloul and Temsia

The nature of urban development in the Souss-Massa River Basin has led to the assessment of two urban centers at the municipal level. Each of these centers represents a different level of urbanization and development. While the municipality of Aït Melloul is already rather urbanized and has a population of some 100,000 people, the municipality of Temsia, which was reclassified from a rural to urban center in 1994, is still very rural in character with a much smaller population.

Both of these municipalities are located along the Souss River and within the prefecture of Inezgane-Aït Melloul. They are also within the limits of Greater Agadir as defined by the current master plan (SDAU) (Figure 5.1). Both cities are experiencing very rapid growth in their respective populations and are representative of the general urbanization problems that exist for the types of cities they represent at both the national and regional levels. Aït Melloul is a satellite center that has experienced rapid population and physical growth over several years without developing the necessary urban functions and infrastructure to support its new population. Temsia is a small rural center that is just now beginning to assume an urban character and corresponding responsibilities (Figure 5.2).

B. City Demographic Profile

The data provided in this section of the report have been taken from the national census of 1994 and a 1996 monograph for the prefecture of Inezgane-Aït Melloul.

2. Population Growth

The population of the municipality of Aït Melloul, currently estimated at more than 100,000, includes almost 12 percent of the total population of the Souss-Massa River Basin. The following table shows the growth of this population since 1971. It also shows population changes for the center of Temsia and for all urban areas in the Souss-Massa River Basin.

Table 5.1
Change in Population for Aït Melloul and Temsia between 1971 and 1997

Period	Population Aït Melloul*	AAGR (in%)	Population Temsia*	AAGR (in%)	Urban Pop. River Basin*	AAGR (in%)
1971	5,989				128,200	
1971-1982	17,712	10.4%	3200		298,400	8.0%
1982-1994	82,825	13.7%	5497	4.6%	688,600	7.2%
1994-1997	103,000	7.5%	6730	7.0%	831,800	6.5%
1971-1997*	-	11.6%		5.1%		7.5%

(*) Number at the end of the period AAGR - Average Annual Growth Rate

The municipality of Aït Melloul has experienced a very sharp increase in population over the past 25 years. It has grown from roughly 6,000 inhabitants in 1971 to 103,000 in 1997, an increase of close to 1,700 percent over a 26-year period. During this time, the annual rate of growth for the city has been around 11.6 percent, compared to 7.5 percent for the overall urban population of the river basin. The very high rate of population growth in Aït Melloul has been due to natural growth, migration, and the integration of several large neighborhoods (Timersit, Azrou, El Mzar, etc.) into the city when its boundaries were extended in 1994. This pattern of spontaneous and unauthorized development just outside city limits and the subsequent inclusion of these areas into the city when its boundaries are extended is common to many cities in Morocco.

Figure 5.1
Relation of Aït Melloul and Temsia to Agadir and the Souss River

Figure 5.2
Temsia: Existing Land Use Plan

Temsia had an estimated population of 6,730 inhabitants in 1997. Its rapid population growth began only three or four years ago, when a large influx of rural migrants began moving into a developing area between the major road RP 32 and the Souss River.

4. Demographic Indicators

Available data clearly show the major impacts of rural urban migration on the high average annual growth rates for both Aït Melloul and Temsia. The current annual birth rate in the region is 2.7 percent and the gross mortality rate is 0.8 percent. The difference between the two is only 1.5 percent. Therefore, roughly 75 to 85 percent of the population increase in each of the two urban centers can be attributed to rural urban migration.

Available studies, such as the SDAU, indicate that this migration, particularly toward Aït Melloul, comes mainly from the Atlantic plains and plateaus, which produce 62 percent of the migrants. Roughly 25 percent comes from Souss, 14 percent from Haha, and 15 percent from Chiadma. This wave of migration has also led to a higher than normal percentage of men living in the two cities (52 percent) and a higher percentage of the population less than 15 years of age (36 percent in Aït Melloul and close to 40 percent in Temsia). The regional average for this age group is 34 percent.

Finally, the average household size is 5.0 in Aït Melloul and 5.4 in Temsia, both of which are relatively close to the average for all urban areas in the region.

6. Socioeconomic Characteristics

Other population characteristics for Aït Melloul and Temsia show very clear differences between the two centers. This is particularly true in terms of education and the level of literacy. Small urban centers, such as Temsia, find themselves in very difficult situations in terms of educating their rapidly growing populations. Only 65 percent of the eligible children attend school in Temsia, compared to 80 percent for Aït Melloul, 82 percent for the prefecture of Inezgane-Aït Melloul, and 75 percent for the region as a whole. At the same time, close to 59 percent of the population and 77 percent of the women are considered to be illiterate. This compares with 49 percent of the population and 66 percent of the women in Aït Melloul.

The percentage of the population in the labor force is roughly the same for the two cities at about 33 percent. However, similar to findings for national and regional levels, the level of unemployment has been higher in the larger city (Aït Melloul), with 16.7 percent of the total work force and 24.7 percent for women. The situation becomes an even greater concern when it is considered that only 50 percent of those employed have full-time jobs. The very seasonal and unstable work related to the processing of agricultural products and to agro-industrial production in general turns Aït Melloul into a genuine center of unemployment between November and May each year with only the informal sector picking up some of the slack.

No specific information was available about employment categories for regular job holders in either Aït Melloul or Temsia. Assuming the breakdown of workers to be similar to that for the prefecture of Inezgane-Aït Melloul as a whole (an essentially urban area), commercial activities would be the predominant category of employment, with 32.8 percent of the work force. This category would be followed by industrial employment with 17.4 percent and administration with 13.4 percent.

In Aït Melloul, the percentage of those employed in industrial activities should be slightly higher due to the nearby industrial zone. The percentage for agricultural employment should also be higher, as a result of expanding agricultural activity on previously uncultivated lands. The number of workers in the

administrative category should be less since a significant number of jobs in this category are located in nearby Inezgane.

For Temsia, agricultural- and livestock-related activities continue to dominate the labor market. More than 40 percent of employment is found in these two types of activities. The concentration of commercial activity along the major road RP 32 provides the second highest percentage of workers.

The basic difference in the nature of employment between Aït Melloul and Temsia has important consequences on household incomes as well. These incomes should be somewhat higher in Aït Melloul due to its role as a commercial and industrial center. It is also reasonable to expect that the average monthly household expenditures in this city are somewhat higher than the annual average of 2,275 DH per person for the region as a whole.

8. Demographic Perspectives

The high population growth rates for both Aït Melloul and Temsia can be expected to continue, given the ongoing process of migration in the Souss-Massa River Basin and the manner in which urban areas are currently developing. Temsia, however, is more likely to serve as a transit point for migrants eventually moving to larger cities. Both cities are projected to have annual growth rates higher than the regional average of 4.7 percent from now until the year 2010.

Table 5.2
Population Projections for Aït Melloul and Temsia until 2010

Period	Population Aït Melloul*	AAGR (in %)	Population Temsia*	AAGR (in %)	Urban Pop. River Basin*	AAGR (in %)
1982	17,712		3200		298,400	
1982-1994	82,825	13.7%	5497	4.6%	688,600	7.2%
1995-2005	157,200	6.0%	11570	7.0%	1,152,000	4.8%
2006-2010	204,700	4.5%	15500	5.0%	1,425,000	4.3%
1994-2010	-	5.8%		6.7%		4.7%

(*) Number at the end of the period AAGR - Average Annual Growth Rate

Given this situation, the population of Aït Melloul is projected to reach 200,000 people in 2010, while Temsia is expected to grow to a population of 15,500 people. Both cities will virtually double their 1997 populations within a very short period of only 13 years.

D. Economic Profile

2. Aït Melloul

Aït Melloul is located at a major road intersection between the southern road toward Goulimine, Tan-Tan, Laayou, the road to Taroudannt, Ouarzazate, the road to Tafraout, and the roads that go off toward the north of Agadir, Casablanca, or Marrakech. Thirty years ago, the economic life of the city was concentrated around the bus station. This station also served as the wholesale food market for the surrounding region. Trucks simply parked to sell their loads without having to be linked exclusively to the site. For this reason, it was possible to find most of the products of the Souss valley at this market. Many of the trucks also stopped to complete their loads due to the fact that products were relatively cheap. Meat, for example, was much less expensive due to certain tolerances about the slaughtering of animals that allowed its sale for a few dirhams less. An important resource for the inhabitants of the town, the reception of truckers and merchants at this market was well organized.

With the extension of Agadir, Aït Melloul took on a completely new orientation. The land situation in Agadir was blocked by reconstruction projects, land reserves, and tight control over all forms of construction. The commune of Aït Melloul had large areas of land at its disposal and proved to be less concerned with their eventual use. The municipality was easily convinced to reduce the forested land it possessed in order to authorize the construction of a depot or a factory. Prefectoral authorities also proved to be understanding and validated occupancy permits for the industrial area, even when formal titles to the land were lacking. Today, 50 production companies have been installed, as well as some 20 important commercial enterprises. Neighboring communes, notably Inezgane, have reacted in much the same manner as Aït Melloul. For this reason, the exact boundaries of the industrial park remain very vague. No plan preceded the installation of companies on the site, and the lands have been attributed in a very ad hoc manner.

While the development of an industrial park on forested land is unfortunate, its location has followed a certain logic. The area to north of Agadir runs up against the mountains of Djebel Louz and the road to Marrakech, while the littoral area is essentially protected. Only the triangle between the major roads P30 and P32 is available and suited for an industrial zone. The pressure of demand can also be seen in the history of Aït Melloul as a transshipment and trucking center.

Current enterprises located in the industrial zone can be listed as follows:

Activities	Number
Enterprises linked to agricultural activities and products	
conditioning of fruits and vegetables	12
animal fodder	1
canning of fruits and vegetables	10
dairy	1
flour mill	3
agricultural tools	12
plastics for agriculture and irrigation	3
fertilizer and pesticides	12
industrialized poultry	1
Subtotal	55
Producers of construction material	1
Sale and fabrication of tools	4
Metal construction	3
Air conditioning	1
Foundries	1
Subtotal	10
Total	65

Beginning with the bus station and related activities, Aït Melloul has steadily been able to incorporate itself into a very specialized commercial network for the products from the Souss valley and to become a required point of passage for the flow of merchandise and commerce going in and out of the city of Agadir.

The city has also been able to establish itself as a center for the sale of agricultural inputs and for the diffusion of new irrigation technologies.

At the same time, the rural inhabitants of the valley have established very intricate commercial relations with Aït Melloul that go well beyond Taroudannt in the east. Aït Melloul also provides the essential transport connections to export certain products outside of the region.

Industrial activity has organized itself according to this network. Merchants in the city have expanded their importance, established close relations with product buyers, and, quite naturally, brought about the installation of companies for product transformation.

4. Temsia

Temsia is a purely agricultural rural commune. The crops grown include tomatoes, garden vegetables, and the products from a few fruit orchards. All of these operations are small, with little mechanization. The airport opened in 1997.

F. Local Institutional Framework

This section of the chapter presents information about the institutional framework for the two selected cities of Aït Melloul and Temsia. These two cities reflect very different levels of urbanization and development. Aït Melloul is a city that has been growing very rapidly for the past 30 years and has developed significant commercial, industrial, and residential areas and activities. Temsia is a former rural center that has just recently been reclassified as a municipality. Its activities continue to be directed toward agriculture with a small but growing amount of commerce taking place along the major road running through the city's center.

2. Aït Melloul

The city was first established at a major crossroads located at the foot of a bridge leading across the Souss River into Agadir. Its very rapid population growth caused it to change its administrative status several times over a relatively short period of time. Beginning as a limited center with a very small, crossroads population in 1953, it has now become one of the larger cities in the region with close to 12 percent of the total population in the Souss-Massa River Basin.

Staffing

The municipality currently has a staff of 173 people, with another 30 temporary positions to be filled on a seasonal basis. This brings the total number of full- and part-time employees to 203. Surprisingly, only seven members of this staff are trained administrators (five) and/or professionals (two: an architect and a doctor). A vacancy remains to be filled for a civil engineer. Given that municipalities execute a public territorial function based on the same employment statutes as national-level government, they do not have a completely free choice in hiring the majority of their professional and administrative staff. This is particularly true for the Secretary Generals and accountants.

In addition, the official organization chart for the municipality follows a standard model developed by the Ministry of Interior. It includes 5 divisions, 11 departments, and 34 separate offices. The formal municipal organization is clearly very flat with many official positions either left vacant or filled by the same person. This "official" organization has relatively little to do with the actual day-to-day operations and responsibilities of the municipality. The fit between the municipality's formal organization and its tasks clearly needs to be reviewed. A simpler organization chart based on actual responsibilities and activities would be more effective.

Given the very small size of higher-level staff and their numerous administrative tasks, they do not have

any significant technical or administrative input into policy making or planning by the municipality. A new detailed development plan for the city, for example, is now being prepared by a private consulting firm. The lack of in-house technical competence also makes staff members very susceptible to manipulation by elected officials pursuing their own pet projects and by other interested parties.

Elected Officials

The municipal council has 31 elected members. The executive office includes the president of the council and five assistants. Seven commissions have been formed that relate to:

- finance;
- economic development;
- public works;
- youth, culture, and information;
- health, environment, and hygiene;
- traffic and circulation; and
- city roads.

These commissions are expected to intervene in two different ways: first, to prepare the municipality's major policy directions for each sector of activity and, second, to follow up and monitor performance. Serious problems exist in the accomplishment of these tasks due to the limited availability of commission members and their general lack of technical competence and/or other pertinent expertise.

Policy Making, Planning, Programming, and Budgeting

Even in a relatively large municipality, such as Aït Melloul, the very limited number of professional staff means that policy making is often overrun by the individual whims and desires of elected officials. This is a common problem throughout Morocco as the decentralization process begins to take hold. It was very clearly seen in Aït Melloul. Even when staff could have provided important technical advice to decision makers, they were rarely invited to present their case. The major part of this problem is obviously due to the very limited number of staff and the real and perceived limits of their technical competence. It is also due to poor equipment and facilities. The lack of computerization in the municipality has been cited as one of the major problems preventing improvements in its efficiency and performance. Needless to say, easier and more rapid access to information about the municipality would enable staff members to respond to questions from elected officials with more accurate and up-to-date decision-making information.

4. Temsia

There is even less internal policy and/or planning capacity in Temsia, where a detailed development plan has recently been developed by a private planning firm and is now being reviewed by the Ministry of Interior. Comments on the plan have been provided by Temsia’s population with very limited involvement in its preparation. Given the poor socioeconomic status of the population and the amount of substandard housing already being built or anticipated, it is not very likely that much more than the major orientations of this plan will ever be implemented.

More than in Aït Melloul, decision making in Temsia is carried out by the municipal council and most of all by its president. The president in this case is from a very well-to-do local family and serves as a Parliamentarian from the region.

6. Management of Municipal Finance

Much of the information presented in Section 3.3 relating to the overall situation for municipalities in

Morocco can be directly applied to the municipalities of Aït Melloul and Temsia as well. The data provide a good basis of comparison between the municipalities of Aït Melloul and Temsia and the results from the national level.

Fifty-four percent of the budget is used for salaries for Aït Melloul and 34 percent for Temsia, as shown in Tables 5.5 and 5.6.

Limitations in capital investment funds mean that neither Aït Melloul nor Temsia has had much influence on the direction and/or quality of urban growth within its boundaries or on the growing areas of unauthorized development around its periphery.

Table 5.3
Aït Melloul Budget, 1995-1997
(000s DH)

	1995				1996-1997			
Line Item	Forecast	%	Actual	%	Forecast	%	Actual	%
Revenues	13,068	100.0%	11,350	100.0%	24,915	100.0%	24,841	100.0%
Urban Tax	1,170	9.0%	795	7.0%	1,700	6.8%	1,855	7.5%
Business Tax	4,100	31.4%	3,049	26.9%	4,500	18.1%	4,790	19.3%
Property Tax	3,460	26.5%	5,465	48.1%	6,000	24.1%	5,244	21.1%
Other Local Taxes	4,338	33.2%	2,041	18.0%	9,023	36.2%	9,023	36.3%
TVA Share	-	0.0%	-	0.0%	3,692	14.8%	3,928	15.8%
Surplus	3,865	29.6%	3,865	34.1%	10,399	41.7%	10,399	41.9%
Expenditures	9,227	100.0%	7,484	100.0%	14,516	100.0%	12,163	100.0%
Personnel	4,053	43.9%	3,308	44.2%	6,574	45.3%	6,574	54.1%
Water and Electricity	2,600	28.2%	2,600	34.7%	1,800	12.4%	1,800	14.8%
Operations	1,675	18.2%	1,256	16.8%	3,687	25.4%	1,335	11.0%
Maintenance and Roads	240	2.6%	240	3.2%	2,244	15.5%	2,244	18.4%
Other	660	7.2%	80	1.1%	211	1.5%	211	1.7%
Gross Balance	3,841	41.6%	3,866	51.7%	10,399	71.6%	12,677	104.2%
Debt Service	-	0.0%	-	0.0%	-	0.0%	1,928	15.9%
Level of Indebtedness		0.0%		0.0%		0.0%		7.8%
Net Balance	3,841	41.6%	3,866	51.7%	10,399	71.6%	10,749	88.4%
Savings Rate		29.4%		34.1%		41.7%		43.3%

Table 5.4
Temsia Budget, 1994-1996

	1994		1995		1996-97	
Line Item	DH 000s	%	DH 000s	%	DH 000s	%
Recurrent Revenue	1,768	100%	2,115	100%	4,857	100%
Recurrent Expenditure	663	38%	856	40%	1,631	34%
Gross Balance	1,105	62%	1,258	60%	3,225	66%
Debt Service	0	0%	0	0%	0	0%
Level of Indebtedness	0	0%	0	0%	0	0%
Net Balance	1,105	167%	1,258	147%	3,225	198%
Savings Rate		62%		60%		66%

H. Urban Development and Housing

The two urban centers selected for this city-level assessment represent very different stages of urbanization: one at the beginning and the other more advanced. Both cities are typical of similar sized cities at the regional and national levels. The major problems they face concern the socioeconomic aspects mentioned earlier in this chapter as well as the basic living conditions of their populations and the protection of the natural environment. The precariousness of the development situation and existing deficits in housing, community facilities, and basic infrastructure within both of these cities are very apparent. Improvements in their living conditions can only be addressed through a program of integrated actions that builds upon the synergies that can be generated between different public and private sector participants in development. The process includes not only those working in housing and town planning at the regional level, but also local authorities and populations.

2. Urban Structure and Major Problems

Aït Melloul

The new economic requirements of an agricultural area undergoing rapid and profound changes have resulted in the need for a large urban center for industry and commerce within the Souss-Massa River Basin. From a simple hamlet in the beginning of the 1960s, Aït Melloul has grown to become a medium-sized city of more than 100,000 people and the third-largest city in the region after Agadir and neighboring Inezgane.

Several key factors can explain the rapid growth of Aït Melloul:

- a favorable geographic location at the intersection of major roads leading to Agadir, Marrakech, Ourzazate, the Anti-Atlas, and Saharan provinces, which has allowed the city to develop very rapidly from a small roadside settlement into an important commercial center;
- expansion of irrigated areas following the construction of the dam on the Massa River, which has spurred diversification in commercial activities to meet the demand for new products (fertilizers, agricultural materials, tractors, etc.); and
- installation of agro processing factories after 1965 and development of a construction industry in response to demand by local developers and the growing number of Moroccans living abroad and sending home remittances for housing construction (most notably in the 1980s).

All of these factors have turned Aït Melloul into an active economic center for the Souss-Massa River Basin and an industrial suburb for the city of Agadir. Recent studies have shown that between 12 and 15 percent of the working population living in Aït Melloul are employed in the cities of Agadir and

Inezgane.

The problems of Aït Melloul are numerous and complex despite its growing economic influence and advantageous location within the Greater Agadir area. The most visibly apparent and seemingly urgent problems concern the poor quality of its housing stock (7.4 percent of households live in bidonvilles), the lack of adequate infrastructure and facilities in the majority of its neighborhoods (33.4 percent of Aït Melloul households in 1994 were connected to potable water supply, 60 percent to electricity, one health center for more than 100,000 inhabitants), serious underemployment due to the seasonal character of agricultural and agro-industrial employment, and the spontaneous growth of substandard neighborhoods within the area of the city and along the Souss River.

Temsia

Headquarters of the rural commune with the same name, Temsia began its development along a major highway (RP 32) similar to other roadside settlements in the Souss-Massa region and other parts of the country (east, Gharb, etc.). Its subsequent growth has been stimulated by its growing administrative function and road-based commercial activities.

Similar to Aït Melloul, Temsia also faces problems related to the poor quality of its housing, the general inadequacy of basic infrastructure and community facilities, and the lack of control over the location and growth of substandard housing areas.

4. Community Facilities

The still-rural character of Temsia means that community facilities are sorely lacking. Temsia is also close enough to larger municipalities in the Greater Agadir area to be able to benefit from their higher level of services.

In terms of public education facilities, Aït Melloul has 2 institutions of higher learning, 12 primary schools, 3 colleges, and 1 secondary school. Current deficits are considerable, particularly for primary schools, when compared to norms set by the Ministry of Education for a population of 100,000 inhabitants.

In terms of health facilities, the city has one health center, a maternity, two dispensaries, and an outpatient clinic. Compared to Ministry of Health standards, it should have at least six health centers, two maternities, six dispensaries, and a hospital. The comparison shows that existing services are insufficient and well below acceptable standards. The situation is further aggravated by the large number of substandard neighborhoods and neighboring rural areas that need to be served and usually have poorer populations with greater needs for health services.

Aït Melloul also has an average of one doctor for 5,700 inhabitants. This is close to the average for the region, which is one doctor for 5,400 inhabitants, but far from the national average of one doctor for every 2,900 people.

Finally, in terms of sports and cultural facilities, Aït Melloul has 2 women’s centers, 11 kindergartens, 1 youth center, 1 library and 1 stadium. Serious deficits exist in terms of these cultural centers and sports fields compared to the existing standards.

6. Housing

Characteristics and Indicators of the Housing Stock

The following housing data have been obtained from the 1994 census and the 1991 Master Plan for Greater Agadir.

The municipality of Aït Melloul has an overall housing stock of some 16,200 housing units. The center of Temsia has close to 1,150 units. The main characteristics of these two housing stocks can be described as follows.

- Housing types: In Aït Melloul, roughly 81 percent of the households live in Moroccan houses with some 7.5 percent living in bidonvilles and rural housing types. The proportion of bidonville and rural type housing in the housing stock for Temsia is 11.2 percent, with 84 percent living in Moroccan type houses. In both cases, the percentage of households living in very rudimentary housing is significant, but less than the regional average of 12.3 percent.
- Housing tenure: Similar to rural areas, Temsia has a percentage of home ownership greater than 60 percent. In Aït Melloul close to 52 percent of the households declared themselves to be the owners of their housing units. This percentage is roughly the same as the regional average for urban areas of 54 percent.
- Number of habitable rooms per housing unit: Close to 44 percent of the households in each of the two cities occupy housing units with one or two rooms. Roughly 70 percent occupy units with less than four rooms. With an average household size of five, this represents about 1.6 people per room.
- In-house amenities: A clear difference exists between the two cities, although both are considerably below acceptable standards. In Aït Melloul, only around 33.4 percent of the households benefitted from piped water supply in 1994 compared to 0.4 percent in Temsia. The situation in both areas has significantly improved since 1994, largely due to the program PAGER.
- The percentage of housing units with electricity connections is higher in Temsia, at roughly 70 percent, than it is in Aït Melloul, with about 60 percent.

Table 5.5
Basic Housing Characteristics in Aït Melloul and Temsia (1994)

	Aït Melloul	Temsia	River Basin
Moroccan houses	80.9%	83.9%	73.2%
Villas and apartments	5.3%	1.3%	8.6%
Shanties and rural housing	7.4%	11.2%	12.3%
Other types of housing	6.4%	3.6%	5.9%
House owners	52.6%	64.0%	53.4%
Renters	37.7%	21.8%	33.7%
More than four rooms	5.3%	1.3%	8.6%
Three to four rooms	37.4%	41.7%	39.5%
Less than 3 rooms	43.9%	42.9%	43.0%
Potable water connection	33.4%	0.4%	56.4%
Electricity connection	59.5%	70.1%	73.3%
Bathroom	22.4%	15.1%	33.9%
WC	89.6%	92.4%	89.7%

Source: 1994 Census

Substandard Housing

The 1994 census also showed that 1,125 households or about 7.4 percent of the population of Aït Melloul were living in bidonvilles or in rudimentary rural housing units within the area of the city. The proportion for similar types of housing in Temsia was 11.2 percent. Of the two cities, only Aït Melloul, however, has taken measures to improve substandard housing areas with projects in progress for the neighborhoods of Admine and Argana that address approximately 40 percent of the needs. With the new growth of bidonvilles, there are still more than 600 families whose housing needs to be improved.

Even though most houses in both cities are built out of solid materials, basic infrastructure for potable water, sanitation, and roads, as well as community facilities and services for health and education, are well below average and sorely lacking.

In fact, up until recently, the largest proportion of neighborhoods in Aït Melloul, with its more than 100,000 inhabitants, were considered as unplanned and below acceptable standards (Azrou, Timersit, Aït Jerrar, etc.).

Neighborhoods in the central area of the town were upgraded by the municipality using a loan from FEC. Those on the periphery of the city (Azrou, Timersit, Kasba El Tahar, El Mzar), however, still do not have basic infrastructure. This situation affects more than a third of the actual population of the Aït Melloul (35,000 people). The municipality has the intention of upgrading these areas, and technical studies have been initiated. The scope and financing of the project remain to be determined. Another loan from FEC will most likely be used for the project.

The question of upgrading substandard neighborhoods does not as yet seem to have been considered in Temsia due to its recent administrative changeover to an urban center. Nevertheless, a sanitation master plan for wastewater is under preparation for different neighborhoods in Temsia.

J. The Urban Environment

This section assesses conditions and trends in the main urban environmental sectors in Aït Melloul and Temsia: water supply, liquid waste management, solid waste management, and industrial pollution control. The section also evaluates the impact of any inadequacies in service provision at the household level.

2. Water Supply

RAMSA is in charge of water supply and wastewater in Aït Melloul. The total number of clients is 7,924. Most of the northern half of the town, above the Biougra road, has received piped surface water from the Souss network since 1995, while the southern half benefits from ONEP well water. Connection coverage is estimated at 50 percent of households, most of which live close to the city center. Peripheral neighborhoods without piped water include El Mzar and Kasba (two former douars that have become major growth areas with substantial clandestine housing development), Kusbitar, Azrou, and Timilseet. Households without connections have access to either standposts or wells or both. Some neighborhoods with fairly extensive network development still have standposts.

Hook-up charges are about 10,000 DH for a 100m^2 two-story unit. Rates per cubic meter are standard RAMSA rates, varying from 2.62 DH per cubic meter in the 0-24 cubic meters per month consumption range up to 7.55 DH/m^3 above 60 m^3 per month.

In Temsia, about 80 percent of the population now benefits from drinking water service. Seventeen hundred households (roughly 10,000 people) have connections to the municipal piped water system, while 350 residents are hooked up to neighborhood water distribution systems financed and maintained by user associations. About 20 percent of the population get their water from 22 municipal standposts. The remaining 20 percent either have private wells or have to haul water over long distances. While standposts provide water for free, households with connections pay a rate per cubic meter that increases with volume as follows:

0-24 m	1.70 DH/m^3
24-60 m^3	3.80 DH/m^3
> 60 m^3	5.93 DH/m^3

Although Temsia's water tariff is on average about 33 percent lower than RAMSA's, water revenues still represent the third-largest source of municipal revenue. It is partly for this reason that Temsia has chosen until now not to turn its potable water service over to ONEP. Temsia and ONEP have discussed this possibility, and ONEP carried out preliminary studies, which identified system improvements and estimated costs to the municipality and the users. The municipality judged ONEP's service to be too expensive for both parties. For the moment, Temsia is therefore planning to continue providing drinking water and to construct its own wastewater collection and treatment system (see below), without the assistance of ONEP or RAMSA.

The choice between better, more expensive service under ONEP and cheaper, less-developed service under existing municipal arrangements is one faced by many of the small and medium-size towns located along the Souss River. While a number of larger municipalities have opted for ONEP service (e.g., Oulad Teima, Taroudannt), many smaller towns, with roughly half of the urban population between Greater Agadir and Taroudannt, continue to provide their own service. For some towns, retaining low utility costs is central to their comparative advantage as "rural" municipalities. Many people choose to locate in towns at the periphery of Greater Agadir, for example, because of the combination of low living costs and reasonable commuting distances. Poorer rural-urban migrants in particular are attracted by the lower costs of basic necessities (rent, food, utilities) found in a town like Temsia, in comparison with towns like Aït Melloul or Tikiouine, which are closer to employment areas. From the municipal point of view, it may be strategic to hold utility costs down in order to encourage in-migration, which in turn will boost more "elastic" sources of municipal revenue like the business tax (*patente*).

On the other hand, the choice of municipally provided drinking water may not be as beneficial to local residents as it is to city coffers. In Temsia, for example, less than 60 percent of the population is served by individual or shared water connections. Since standposts serve another 22 percent of the population, and since water quality is generally acceptable, drinking water conditions do not generally pose a health problem in Temsia, as indicated by the absence of major outbreaks of water-borne diseases in recent years. Nevertheless, the energy that many households must expend to obtain drinking water is a significant constraint. About 40 percent of households have to fetch water from outside their dwelling, at distances that vary from a few meters (to a standpost) to hundreds of meters (to the nearest well or water vendor). The extra effort required to satisfy daily water needs absorbs time and energy that could otherwise go toward income-generating activities, leisure, or other uses.

Bringing water directly to the home is therefore a priority of residents of peripheral areas in Temsia and Aït Melloul. In one suburb of Aït Melloul, Azrou, residents formed a users' association to install and maintain a piped water system. The Azrou case exemplifies the difficulty of providing municipal services through user associations in the Souss-Massa region.

The Azrou district is located about two kilometers north of the Aït Melloul city center. In 1993, local residents, interested in being connected to the drinking water system, lodged a request with the municipality, which in turn forwarded it to RAMSA. RAMSA did not have sufficient funds to provide the service, especially considering the expensive off-site infrastructure that would be required, so the residents, at the suggestion of the municipality, created a users' association to provide a local network. RAMSA agreed and provided funds for a technical study. It was decided to drill a well and construct a water tower, which would feed a new local piped network. The DRH drilled the well, and the association collected 2 million DH from its members toward the construction of the water tower and the network. The total cost of the investment was to be 2,500 DH per household plus 600 DH for the meter.

The association broke ground on the project before obtaining final approval from RAMSA. When the dossier went up to the Prefecture, it was rejected on the grounds that RAMSA is the sole potable water

provider in Aït Melloul, as per their contract with the municipality. According to the Prefecture, no other entity has the right to manage a water system within municipal limits. For two years, all work was frozen. At the beginning of July 1998, the situation was finally resolved, through a three-way agreement among the municipality, RAMSA, and the association, stipulating that the association would finish construction of the network while RAMSA would provide the off-site main and attach the new network to the municipal system. RAMSA will manage the extension after reception.

Such a broad construction of RAMSA's prerogatives in the water sector can undermine any attempt to extend water service coverage through user associations. The same constraint would probably apply in the liquid waste sector.

4. Liquid Waste Management

The liquid waste sector lags behind water supply in Aït Melloul and Temsia as in other parts of the Souss-Massa basin. RAMSA has been responsible for wastewater collection in Aït Melloul since 1991. Only about 30 percent of the population is currently connected to the piped collection system. The total number of customers is 4,240. The systems covers about half of the city center and none of the satellite developments, such as Azrou and El Mzar. Most households unserved by the network use either septic tanks or pit latrines.

To be connected to the network, neighborhood residents submit a request to the municipality, which transfers it to RAMSA. RAMSA then calculates the cost of the extension and informs the residents of the charges involved. According to the municipality, demand for extensions is fairly robust at present. Other small extensions covering specific neighborhoods are planned and carried out by users' associations and then connected to the municipal network. All of the wastewater collected through the network is dumped untreated into the Souss River.

Services are even less developed in Temsia, where no collection network exists. The large majority of households use septic tanks or pit latrines. Temsia is outside of RAMSA's service area.

The challenge in both towns is twofold:

- to build/extend a collection network that has the same coverage as the water supply network; and
- to build/hook up to wastewater treatment facilities.

The Municipality of Temsia would like to meet this challenge by building and operating its own collection and treatment system. They have hired a consulting firm to design a 5,000-meter-long network, which would connect to three small treatments plants near the Souss. Although the project has not been costed, the municipality is currently looking for financing. The municipality does not intend to charge users for any part of the costs associated with the construction of the main collectors and the plants. Once the collectors are installed, users' associations will be formed to plan, finance, and build local networks. Since RAMSA is not active in Temsia, users' associations, given the support of the municipality, are likely to prove an effective means of providing wastewater collection facilities.

Aït Melloul is counting on RAMSA to meet the wastewater challenge. As described in the regional environmental section above, RAMSA has plans to build a wastewater treatment plant four kilometers from the mouth of the Souss. The plant, which is scheduled to go into service in 2001, will treat wastewater from most of the RAMSA service area, including Aït Melloul.

The impact of the underdeveloped wastewater sector in Aït Melloul and Temsia is mitigated by local climatic and hydrological conditions. On the one hand, collection systems are inadequate, so waste is

generally disposed of through on-plot systems, such as septic tanks and pit latrines. These systems have the potential to pollute the groundwater and to contribute to the spread of water-borne diseases, especially where they are used at urban densities similar to those obtained in the built-up areas of the two towns. However, there is very little rainfall in the Souss River basin, which means that the waste is generally not carried deep into the ground. In addition, the aquifer is very far from the surface in most of the river basin. While in some areas immediately adjacent to the Souss water is found at 25 or 30 meters, the aquifer begins at between 50 and 200 meters across much of the valley. As a result, little bacteriological pollution from individual waste disposal systems reaches the groundwater in most areas. This mitigates the impact on health of underdeveloped wastewater collection systems.

If on-plot disposal poses few risks in most towns, concentrated discharge of wastewater collected through a network can create problems. In Aït Melloul, wastewater is dumped into the river bed downstream from the town, so there is no health impact on town residents (although downstream neighbors can suffer the consequences of this practice). But the threat of water-borne disease increases when (1) waste is concentrated and discharged in the riverbed, where the aquifer tends to be more shallow and where the sandier soil facilitates percolation, and (2) when farmers collect the wastewater at the discharge point and use it for crop irrigation. As noted in the regional section, this is known to happen in some towns, notably Oulad Teima. While most wastewater is used on non-food crops, such as reeds, direct watering of vegetables and other consumable crops poses a clear threat to public health. No data are available on the extent of reuse of wastewater for irrigation (an illegal activity) or on the extent of water-borne diseases resulting from this practice.

Stormwater drainage in Aït Melloul is performed by a combined collection system (wastewater plus stormwater). Temporary flooding was common in some areas of the city center during the 1980s, but since the takeover in 1991, RAMSA has resolved the situation mostly through improved maintenance practice. According to the Municipalities of Aït Melloul and Temsia, there is no substantial flooding problems in these towns today, a conclusion that is not surprising given the very low levels of rainfall.

6. Solid Waste Management

Total production of household and commercial waste in Aït Melloul was estimated to be 244,476 kilograms per week in a 1996 Greater Agadir solid waste master plan study.[4] Industrial waste produced by enterprises in the new industrial zone also tends to be organic in composition, since about one-third of the firms are in the food packaging and processing sector.

Solid waste collection in Aït Melloul is a municipal service. Approximately 55 percent of households benefit from daily collection of household waste in nine flatbed trucks. Another 35 percent, located mostly at the urban periphery (e.g, Azrou, Casbah, and El Mzar), have their waste collected daily by carts. Cart collection is organized by users' associations, which hire private individuals to perform the service. The remaining households (approximately 10 percent) have no solid waste collection service.

In smaller towns, including many “rural” municipalities (*communes rurales*), all solid waste collection is performed by private individuals contracted by users' associations. This is the case in Temsia, where approximately 80 percent of households are served in this way. Collection is performed daily. Charges are 10 DH per household per month. The collectors dump the waste in an uncontrolled site adjacent to the Souss River. Officials in Temsia expressed their preference for solid waste collection to become a municipally provided service.

The main constraint in this sector in Aït Melloul, according to city officials, is the low level of discipline on the part of local residents. While many households put their garbage out in bags or cans, others simply dump their trash in the street. Many residents fail to put their garbage out at the appropriate time. City-run campaigns to increase user discipline have worked better when combined with simultaneous introduction of new collection equipment.

The other problem cited by officials is the great distance to the landfill. All of the towns in Greater Agadir share one landfill, located in Agadir, 16 kilometers from Aït Melloul. The need to transport waste over this distance every day is said to cause unnecessary wear and tear on the collection trucks. The municipality is considering construction of a transfer station to solve this problem. Smaller existing collection vehicles would be used to bring all waste to the station, from where a new larger more robust truck would transport it to the landfill. Another potential solution is local waste separation, with a low-technology compost operation that would eliminate the need to transfer Aït Melloul’s organic waste to Agadir.

The negative impacts of inadequate solid waste disposal in the two towns are mitigated by favorable physical conditions. Since there is little rainfall, there is almost no leachate. And since the aquifer is far below ground level (in the 50-200 meter range in most of the valley), there is in any case little danger of pollution of the aquifer. So where waste is adequately collected and covered in a landfill away from the river bed, solid waste will have little impact on the health of local residents. Since the uncontrolled dumpsite in Temsia is located right next to the river bed, however, some leachate contamination of the aquifer — generally more shallow near the river — is a potential health threat.

The main solid waste problem in these towns is aesthetic. Lack of household discipline and inefficient collection methods result in occasional piles of garbage on city streets and in pollution of peripheral areas. As in other Moroccan towns, plastic bags that have blown out of garbage trucks or uncontrolled dumpsites litter the outskirts of cities. Local residents, to some extent in town centers and particularly at the urban edge, have to live in the aesthetically degraded environments caused by inadequate solid waste collection and disposal.

Geoconseil Environnement, *Etude du schéma directeur de gestion des déchets solides du Grand Agadir*, 1996.

8. Industrial Pollution Control

There is very little industrial pollution in the two towns. Temsia has little or no industry. Aït Melloul has an industrial park that is still under construction; basic infrastructure is currently being installed. At build-out, there will be 750 plots in the park, of which 100 are scheduled for the first phase. To date only 65 firms — concentrated in the areas of food processing, food production, milling, and dairy production — have begun operations. Most of the waste of these firms is organic and is therefore collected along with domestic and commercial waste. Five service stations are also under construction. Given the inchoate nature of the industrial sector in these towns, industrial pollution has little impact on the health of local residents.

L. City-Level Synthesis

Outside of Morocco's most important cities (Casablanca, Rabat, Fez, etc.), the overwhelming majority of the country's 248 municipalities are ill prepared to promote or manage their own development. Virtually all of these municipalities are seriously understaffed in terms of their professional and technical competence, with little financial resources to promote or control growth. They have the almost impossible task of translating technical planning concepts into action by private sector individuals possessing the necessary financial and technical resources to do so.

Due to the combined lack of planning and finances, most elected officials focus on short-term, small-scale projects geared to the satisfaction of their constituents and to their own reelection. Many of these projects (bus station, local markets, etc.) are popular with the municipality because they bring in small amounts of revenue.

All of these conditions combine to make municipalities more concerned and interested in urban growth than in planned and organized development. Aside from the layout of roads, there is little that cities can do to organize development without changing the current planning process to a more strategic and community-supported approach.

Most municipalities are opportunistic in attempting to attract economic activity. They are often little concerned about the land use and/or environmental consequences of their decisions. They have little capacity or desire to restrict individual household initiatives to produce their own housing. In almost all cases, housing construction, even if substandard, is allowed as long as it is built out of solid materials and similar or better than existing, rural type of housing in the area.

Moving into a bidonville requires a viable social connection with people already living in the neighborhood, due to the need to obtain approval from other families. The precariousness of the tenure situation and generally small size of the site effectively constrain any observable proliferation of this type of development. In the more prevalent form of substandard housing built with solid materials, the land is most often bought (albeit without government authorization or formal title) from a recognized, private owner. There is a tacit agreement that the city will not take measures to have such housing removed.

Liquid and solid wastes in both Aït Melloul and Temsia have not been given adequate attention by either municipality. Even though Aït Melloul is considerably larger, the basic challenge is the same for both, i.e., to build/extend a collection network that has the same coverage as the water supply network and to build or hook up to some form of wastewater facility. The impact of an underdeveloped wastewater sector in both of these cities is somewhat mitigated by local climate and hydrological conditions.

Aït Melloul

Since 1971, Aït Melloul has undergone a 17-fold increase in population, from roughly 6,000 people in 1971 to 103,000 in 1997. Aït Melloul's annual growth rate over this past 26-year period has been around

11.6 percent. A similar rate of growth is expected to continue over the next several years, with the city's population projected to almost double to 205,000 by the year 2010.

Part of the recent increase in population has been due to the incorporation of substandard housing areas and poorly serviced neighborhoods located around the periphery of the city's former boundaries. Much of this area continues to be seriously lacking in urban infrastructure and services.

During this period of extremely rapid growth, the city simply has been trying to maintain the basic orientations of its growth and to work with government technical agencies (RAMSA, ANHI, FEC, ERAC, etc.) in attempting to address some of the major urban problems and issues. Given the municipality's inability to address these problems on its own, local associations have also begun to assume responsibility for some neighborhood services. The basic working relationships between neighborhood associations and the city still need to be determined.

Economic development in Aït Melloul has occurred mainly as a result of its location at a major regional crossroads and its long-standing function as a transshipment center and open-air market for agricultural produce. These activities have led to the establishment of agro-processing industries in the city based on the advantages of its location and commercial activity. This ties the city very closely to the development of commercialized agriculture in the surrounding countryside. Both irrigated and greenhouse agriculture in the area are expected to increase substantially, which should add to the city's future economic growth. The growing number of agro-processing plants in the Aït Melloul-Inezgane industrial zone also provides much-needed off-farm employment, although much of this is seasonal.

The majority of employment in Aït Melloul is related to agriculture. The city is more involved with modern agriculture, due no doubt to export possibilities and the presence of agro-processing operations in its area.

Low-income residential areas, poor-quality housing, the urban environment, and employment are the most pressing and apparent problems in Aït Melloul. The city has a housing stock of some 16,200 units, of which 81 percent are "Moroccan" houses, with 7.5 percent bidonvilles. Solid waste in Aït Melloul is a municipal service with 55 percent of households being served. User associations use carts to collect this waste from another 35 percent of the population.

Aït Melloul will also continue to experience serious problems and delays in providing urban infrastructure and services to outlying residential areas. Problems in bringing existing, inner city areas up to standard will also continue and become even more important in the future due to higher densities and the deterioration of existing systems. Given that the population of the town is expected to double over the next 15 years, all of these problems will multiply in their intensity. While the city should now begin to improve the quality of its core area and urban environment, it will remain hard pressed simply to keep up with the rapid growth taking place on its periphery.

Although Aït Melloul's municipal staff is fairly large, it includes only seven qualified administrators and professionals. This is clearly not enough to plan and manage a city of its size. The municipal council has 31 elected members with an executive office of a president and five assistants. Seven commissions have been charged with the preparation of the major orientations of municipal policy and the monitoring of performance related to various aspects of the city's development. These commissions, however, meet only on an occasional basis and do not benefit from any technical input by municipality staff.

The municipality of Aït Melloul is not able or interested in assuming a more active development role at this stage in its development. Little solidarity exists between elected officials in terms of the needed development actions, and serious problems remain between elected representatives and regular municipal

staff, primarily between the President of the Municipal Council and the Permanent Secretary.

Temsia

Temsia is an agricultural center, located close to Greater Agadir, that has recently been reclassified as a municipality. The city center includes a small amount of roadside commercial development that originally supplied surrounding farmers with their basic necessities. The modernization and commercialization of agriculture, along with greater participation by farmers in the cash economy, have increased the required number and types of stores in the center. The change in status of the city also requires a certain amount of development to house its new administrative functions.

Between 1971 and 1997, the city's population more than doubled from 3,200 to 6,700. Its population is projected to grow to almost 16,000 by the year 2010. The town's relatively cheap land, lack of rigid concern for planning and building controls, and good road connections and proximity to Greater Agadir also make it an attractive place to settle for rural urban migrant families with a certain amount of financial resources. The town considers its ability to attract these migrants as a positive factor in its ongoing growth and development. A reinforcing cycle between commercial activity and population is being established that will encourage the growth of both.

In general, the municipality is more interested in simply accommodating new population growth than in improving the quality of development and/or its urban environment. Temsia has a housing stock of 1,150 units, of which 11.2 percent are rural type housing or bidonvilles. Much of the remaining stock includes very rudimentary housing units built out of solid materials. Given that many migrant families have come directly from the countryside, their poor economic situation has resulted in much lower quality housing than what is generally found in larger cities. Within this housing stock, however, there is a very high level of home ownership.

Temsia also faces problems related to the overall inadequacy of infrastructure development and to the lack of control over the location and growth of substandard neighborhoods. A very difficult and pressing issue concerns the overall lack of community facilities. Small, rapidly growing cities such as Temsia experience considerable difficulty in obtaining public facilities and services from the various central ministries. These small cities are not considered as high priority areas. While many residents can use community and health facilities in the larger, surrounding municipalities, there remains a major problem with schools, which, in addition to the purchase of land and construction of the school building, requires the hiring of teachers on a long-term basis.

The municipality of Temsia is trying to improvise low-cost improvements that will satisfy the basic needs of its inhabitants, but will not dramatically increase costs of infrastructure and service to the city or to its residents. Like other municipalities of this type, Temsia is facing a choice between the normal, more expensive approach to infrastructure provision (including studies, FEC loans, bids, implementation, etc.) and a lower-standard, less-developed infrastructure and services approach that is implemented through simplified municipal arrangements and the help of local associations. Because of its more rural nature, Temsia is more actively involved with resident associations. The main focus of Temsia's development at this stage is to pursue urban growth that will benefit current inhabitants both in terms of real estate value and commercial activities.

As expected, there is little internal policy or planning capacity within the municipality of Temsia. While a detailed development plan has been prepared by private consultants and is currently under central government review, much of the land within the boundaries of this plan has already been subdivided, sold, and/or built upon.

VI. Cross-Cutting Themes

B. Decentralization

The Protectorate Period and global economic development following World War II created new and unbalanced development patterns throughout Morocco at the time of its Independence. These radical changes in the character of the country resulted from highly discriminatory investments during the colonial period that favored agriculturally "useful" as opposed to "disadvantaged" areas, development in coastal areas as opposed to the interior, and urban over rural development. The combination of these factors produced massive population movement and migration to the middle coastal area.

Since Independence, decentralization in Morocco has evolved very slowing according to Royal pronouncements, decrees, and laws. The establishment of the first electoral boundaries and regulations for voting occurred in 1959. The first Communal Charter was presented in 1960. The law concerning prefectures was established in 1962. All of these initial actions served to set in place the basic framework for decentralization. The process only really began in earnest, however, in 1976 with the passing of the law on communal reform. This law introduced a new philosophy toward communes based on the government's desire to implement a more feasible, dynamic, and efficient administrative approach.

Despite the clear ambitions of these reforms, only very limited results and/or areas of intervention were achieved by communes during the 1976-1986 period. Efforts mainly served to introduce the broad concepts of the new decentralized approach while keeping central authority firmly in control. A second, potentially more active phase of decentralization began very tentatively in 1986 with the creation of new sources of municipal revenue through subsidies from the VAT and changes in local fiscal policies.

Morocco's rapid population growth and its virtual doubling in physical size to the south have made the continued centralized management and administration of the country increasingly difficult. Government realization of this situation has increased the importance placed on decentralization.

As a cross-cutting issue, decentralization has many close linkages with governance, community participation, and partnerships. Decentralization is in fact a necessary corollary for the growth of democracy and must go hand in hand with the strengthening of local decision making.

2. Decentralization Policies and Their Implementation

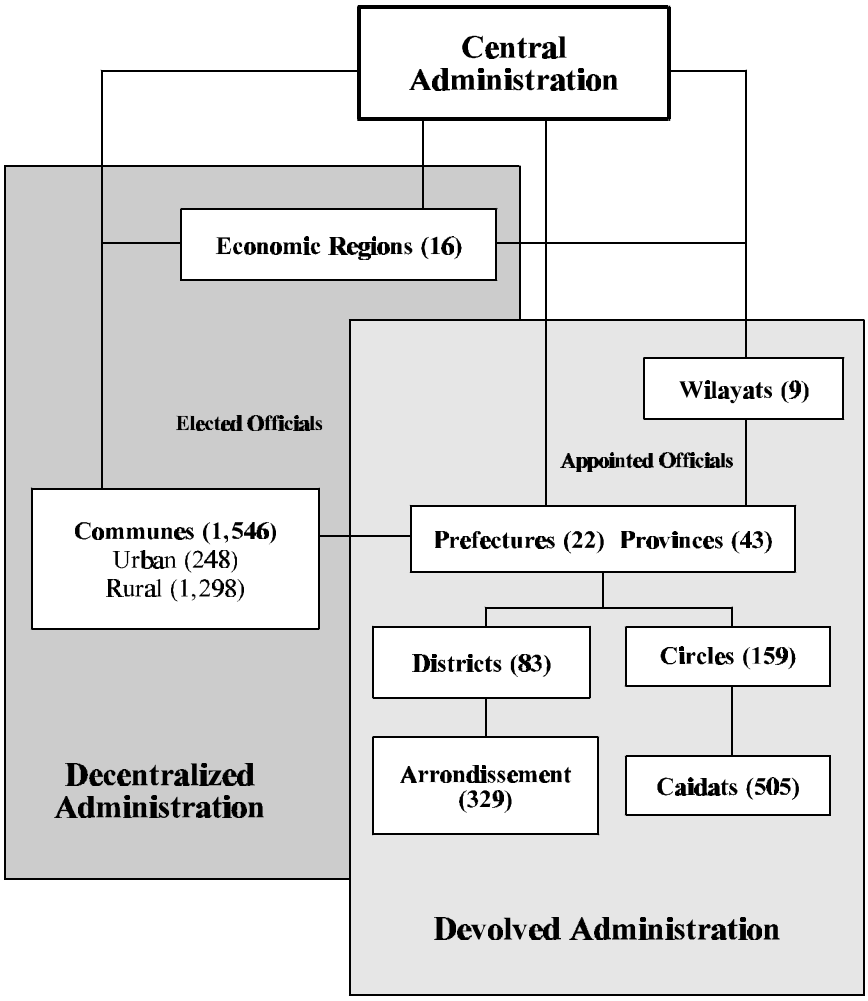
Territorial administration in Morocco is distinguished by the density and complexity of its organization. Two types of parallel territorial structures co-exist that include (Figure 6.1):

- agencies under executive authority and with only limited direct contact with the population (region, wilaya, prefecture or province, circle, and caidat); and
- agencies under elected authority and with direct and continual contact with the population (urban or rural communes, districts, arrondissements, urban communities, and communal syndicates).

The complexity of this institutional situation has created very ambiguous boundaries to the responsibilities and actions of the various administrative units. Within this situation, communes are only one of the institutional participants that have important but not at all exclusive roles to play in governance and administration.

All of the existing political-administrative infrastructure insures the continued representation of the central government at the local level. The basic purpose of central government representation at the local level is to inform the population about government positions, support the application of public policies and control, and monitor and assist local authorities in carrying out their responsibilities.

Figure 6.1
Morocco's Dual Track Administration



4. Effectiveness of Decentralization Measures

Real success in the balance between centralization and decentralization can be measured by the positive impact achieved on economic and social development. It is now generally conceded that excessive centralization has hampered local-level development in the past and that decentralization should provide a better way to respond to local conditions and to mobilize greater resources for urban development.

The density and complexity of existing administrative units in Morocco makes it very difficult to identify their exact responsibilities for many tasks. The excessive ambivalence in the present system effectively reinforces the role of central government as the ultimate decision maker at the expense of local authorities. Legislation to strengthen the participation and powers of locally elected officials has almost always been accompanied by a parallel strengthening in the powers of appointed executive officials. The net result has been the reinforcement of urban management powers held by central authorities.

The relative slowness in Morocco's process of decentralization has been due at least in part to the existence of very limited human and financial resources at virtually every level of government. Under these conditions, central government agencies have been very reluctant to share any part of their powers or resources with outlying services. The result has put these services in a position of almost total

subordination to central government in terms of obtaining their budgets. A state of continuous hesitation between maintaining central control and developing shared responsibilities with local entities has been the result.

In addition, virtually no formal mechanisms exist for the effective dialogue, cooperation, and/or coordination between provinces. The one mechanism established for this purpose, the Interprovincial Syndicate, has not been used. As a result, both provinces and communes have been obliged to define their programs and activities almost entirely within the abstraction of their own boundaries.

6. Decentralization and Urban Development

Urban planning and development in Morocco involves the interaction and reconciliation of national, regional, and local interests. Very close collaboration is required to resolve the overlapping and complementary interests between central and local authorities. This collaboration is particularly important in dealing with issues related to the well-being of the population and the environment. The strengthening of local administration is absolutely essential if such collaboration is to be accomplished through a partnership basis and to achieve its full effectiveness.

A fundamental objective involves the need to institute greater collaboration among national, regional, and local entities in the elaboration of planning documents. Despite the various laws that have been passed to increase the responsibility and authority of municipalities, their actual powers in determining the orientations of their own development have not been adequately reinforced. The texts of the 1976 Communal Charter were, in fact, rather restrictive in this regard by not specifically assigning municipalities an active role in planning process. The law only gave them the right to present a consultative opinion concerning the choices, orientations, and development components that are fixed by central agencies.

As a result, communes are not directly associated in the elaboration of planning documents for which they have been given the responsibility to implement and enforce. Residents and potential private investors in urban development are even less involved in the planning process and are very rarely consulted before the principal options of the plan have been fixed. It is little wonder, therefore, that many plans developed by private consulting firms on behalf of central government agencies are received with little or no enthusiasm by local authorities and residents. The lack of local participation in the elaboration of urban development plans and the very limited understanding of the rationale and reasoning behind their basic requirements are just two of the reasons why approval procedures have also become unnecessarily long and complicated.

Municipal councils have only been given very limited powers in terms of the elaboration of planning documents. While they are called on to provide an opinion before any plans take effect, most of these plans have already been prepared and essentially approved by central agencies. Local input and ownership are very limited and not very essential. A new approach is needed that will enable local authorities to guide the future development of their cities and not simply control the management and delivery of land use and building authorizations.

Municipalities also do not formulate their own urban development policies or standards. Central government agencies maintain the power to establish these policies and standards, take decisions about their application, and elaborate new legislation and regulations designed to enforce them. Municipalities are then made to bear the burden of implementing these central government decisions. Even more importantly, municipalities have very little involvement in the key areas of economic or social development, which lie at the very heart of their most recent mandate.

8. Financial and Budgetary Reforms Related to Decentralization

In 1988, the government began the transfer up to 30 percent of the product received from VAT to finance local authorities. This amount reached 5.65 billion DH in 1996 compared to 2.9 billion in the first year of its distribution, although it is still not enough to meet the investment needs of municipalities.

Municipal budgets are dominated by operational expenses with very little funds available for investment compared to the real needs of the community. Taxes related to development include the urban tax (*taxe urbain*), rental value tax (*taxe d'édilité*) and VAT (which is used to subsidize part of the operational budget of the municipality), licenses, and local taxes. It would be advantageous for municipalities to be able to establish their own terms for the licenses issued under their authority.

Current municipal accounting systems involve only simple ledgers of expenses and revenues. They do not include any real financial planning, evaluation, or control of the actions taken. The municipal accounting approach is also done on a global basis, which precludes the identification of any weaknesses related to municipal management. The approach does not provide the technical means for municipalities to better guide their finances. There is an obvious need to change financial management practices to include more up-front financial planning and evaluation using methods similar to those employed by the private sector. A management manual should be developed in order to help achieve a more effective use of available resources.

Full financial autonomy at the local level can not exist without some form of higher control. One suggestion has been to establish auditing offices at the regional level and to make this control at the end of an exercise.

10. Role of Regional Authorities

The Royal Decree of August 6, 1968 created the Inter-Ministerial Committee for Regional Development, which initially focused the government's attention on regional matters. The *dahir* of June 16, 1971 created seven economic regions, with all but one having access to the sea. It was only in the National Development Plan of 1973-1977, however, that the problems of regional development were outlined and the methodologies and institutions identified to work at this level. The intention of the Plan was to help re-adjust the equilibrium of development by addressing the real problems and capabilities of the different regions. Rapid population growth and large scale migration to urban areas were two of the major reasons behind this interest in establishing a regional perspective. The Constitution of October 9, 1992 definitively established the region as a separate territorial entity with the same legal foundation as the province, prefecture and commune.

The growing government emphasis on economic regions is a direct response to the central government's own administrative needs and to growing recognition of the importance of regional development. A new regional administrative framework also provides an opportunity for greater openness and experimentation in promoting economic, social, financial, and institutional improvements. It allows for greater participation in management and direct implication of participants in the process of integrated development.

The region is a third level of territorial administration in addition to those for the province and commune. Whereas provinces and communes have established working relationships over a period of many years, the region is a new administrative unit that still has to define its relationships with other levels of government. One of the advantages of working at the regional level, however, is that it allows for a more productive integration of economic, social, and environmental policies. Other advantages exist in terms of planning, economic development, response to social issues, and equity.

Regional administration has two essential components: a Regional Council conferred with deliberating and

decision-making powers and a regional executive headed by the governor of the province or prefecture that headquarters the region. The Regional Council is the only territorial assembly that includes members of the national parliament elected within the same geographic region. The President of the Regional Council has considerably more power in the functioning of the regional system than does the President of the Provincial Council, who is subject to the governor.

The Regional Council is composed of two categories of members: elected members and presidents from the communal and provincial assemblies; and elected parliamentarians from the region. The executive office of the region is made up of the President of the Regional Council and up to nine vice presidents. The Regional Council also includes at least seven permanent committees that oversee: (1) finance and budget, (2) planning and regional development, (3) economy, employment and social affairs, (4) health and hygiene, (5) agriculture and rural development, (6) town planning and environment, and (7) education and culture. The Regional Council is required to meet three times a year (May, September, and January) and has been given three general areas of competence: tasks and functions specifically assigned to it, tasks and functions transferred to it, and areas in which it is allowed to make suggestions.

A region's responsibilities for its own functions relate to two main categories: public finance and regional budget and economic and social development. The Regional Council is responsible for the elaboration of an economic and social development plan for the region that relates to: national development plans; regional development plans; and efforts to generate employment, professional development, sport, and private investment.

Tasks and functions that can be transferred to the Regional Council include: public facilities of regional interest; construction and maintenance of hospitals, secondary schools, etc.; training of local staff within the region; and other actions determined by the signing of agreements.

Finally, the Regional Council can make suggestions concerning broader regional development actions, service management and organization, government investments in the region, regional planning policies, and the location of universities and hospitals.

The nucleus of the government's system for territorial management is directed by governors and elected communal officials embodied through the Presidents of Municipal Councils. The communal system in Morocco places considerable weight on the President of the Municipal Council who has been given powers of execution, direction and control over municipality activities

The mechanisms of "tutelle" and central control of local authorities ensure their subordination to central authorities in at least two very key areas:

- elaboration of the budget and its approval; and
- implementation of contracts that exceed 200 millions centimes (± 200,000 dollars).

The strict hierarchies in the functioning of the system for territorial administration and management resulted in frequent bottlenecks, delays, and the lack of initiative by administrative staff members.

The mechanisms for coordination are insufficient. The legislation and regulations governing administrative coordination have moved very slowly toward coordination/centralization in favor of governors as representatives of the state related to different territories. Under these conditions, the regular meetings of inter-departmental councils, under the direction of the governor, fall well short of providing a real solution to the problem of harmonizing development activities.

It is not by accident that the current focus on regional development is accompanied by a revival of interest in the Economic Development Plan as an important tool in managing economic development. By law, Regional Councils are required to elaborate an economic and social development plan based on priorities identified by the central government.

Regional planning has been identified as a priority policy objective by the current government. Its successful achievement requires strong cooperation between regional entities and the central government. The Regional Councils in principle have the power to intervene in virtually every sector of economic and social activity. They will have a strong input into determining the contents of the central government's policies in the various sectors.

12. Institutional Reforms and Assistance to Local Governments

The two key components of local government in Morocco have been the province and the commune. The Communal Charter of 1960 basically prepared the way for decentralization and a greater focus on local administration. Three years later, decentralization was extended to the provincial level, which was provided with assemblies having deliberative powers according to the same statutes used for communes. The communal reform of 1976 focused on two main considerations: a political one that contributed in a very tangible way toward opening up the political process and a technical one that involved establishment of new local administrative units able to take charge of the economic and social development process.

Municipalities in Morocco have always been managed as traditional administrative structures. Little improvement or modernization has been made in the way that they function. Most of them remain very poorly equipped in terms of modern office machines and materials. More recent difficulties include the fact the many large cities now include more than one municipality. At the other end of the scale, very small urban communes do not have the institutional structure required to fulfill their responsibilities

Urban areas since Independence have become fields of experimentation for different types of authority. Not all of these experiments have been successful, and the majority of local authorities have not been able to lead development in their areas. They generally intervene only when problems have already occurred. They devote a considerable amount of their time and effort attempting to fix things that have gone wrong.

The existing organizational structure for local government is tentative. and the method by which responsibilities, powers, and means are distributed not very stable or sustainable. This applies not only to political changes but also to internal conditions within municipalities

Given the need to address growing areas of unauthorized and substandard development, municipalities need to make some very fundamental changes in their approach to development that include the:

- reorganization and rationalization of internal structures and staff to respond to actual capabilities;
- reinforcement and extension of capabilities to provide municipal administration and services to the maximum number of residents;
- expansion of internal capacities to manage infrastructure and services;
- computerization of management processes as a means to help raise the technological level of the municipality;
- acceleration of efforts to modernize and improve local management; and
- updating of available management tools.

Although a standardized organization chart for municipalities has been proposed by the Ministry of Interior, both the official and actual organization of municipal staff generally differ from the proposed

arrangements. In most cases, municipal organization is rather inorganic with very shallow structures and only ad hoc organization. Little balance exists between units within the organization of the municipality, which means that some departments are given much more importance than others in terms of resources and staff.

Technical services are the predominant activities and provide the organizational core for most municipalities. Activities related to regulations and accounting place second in importance, while purely administrative services are third. The imbalances in municipal organization and staff produce not only very unequal distributions in terms of means and resources, but also activities that occur at different rates, poor use of internal potentials, and frequent conflicts and disputes between staff.

The administrative organization of most municipalities is very flat. Except for public works, little hierarchy exists due to very limited staff. Most services consist of several agents working in the same office and undertaking the same or very similar tasks. Little use is made of a chain of command. The results of this situation are very typical: unclear and dispersed responsibilities, little training or improvement in the capabilities of staff, poor execution of instructions by superiors, etc.

For this reason, official organization charts have not been able to reflect the real manner in which municipalities are organized or perform. The restructuring and reorganization of these municipalities also occurs on a continual basis, with elected officials frequently intervening and attempting to orient the manner in which they function.

Current Problems

Municipal systems currently face a number of generic problems that include the:

- active involvement of elected officials in the day to day operations and management of the municipality. While democratic processes should encourage local officials to play active roles in the future development of their cities, it should not enable them to intervene at will in the normal operations of municipalities. There is clearly a need to define more positive and effective ways for elected officials to fulfill their election mandates.
- absence of clear definitions of respective roles and rules. Inadequate coordination and relegation of the secretary general to a role short of full-time, administrative responsibility by elected officials has a negative effect on the coordination and functioning of departmental units and services within municipalities. The situation creates considerable confusion and duplication in responsibilities and tasks, a waste of human resources and the under-utilization of existing executive capacities.
- generation of poor results and negative perceptions due to continuous disruptions within the functioning of municipalities, poor execution of tasks, lack of adequate responsibility by municipal staff, and politicizing of municipal activities. Deficiencies within the systems for internal communications lead to the poor circulation of information between municipal entities and the tendency for each department or office to try to resolve problems in its own way. The majority of municipalities need to be modernized, computerized, and provided with adequate space for necessary documentation.
- poorly adapted decision-making processes that are largely centralized around the president and vice-presidents of the Municipal Councils. The offices that prepare the necessary documentation are not generally involved in the decision-making process. The situation leads to poorly prepared and hastily taken decisions that do not fully consider the context of their application or the coordination required either within the municipality or with other local partners.
- general lack of any future vision or planning in the provision of infrastructure and public services. The investments required to resolve these problems make very heavy demands on municipal finances and the efficient and effective use of urban infrastructure. The problems that confront local authorities are

increasingly complex and costly to resolve. Not surprisingly, elected officials are primarily interested in short-term results and not in long-term sustainability.

Potential Reforms

Very specific reforms can be proposed for individual municipalities to improve their ability to function in their local context. Generalized areas of improvement might include the following:

- developing managerial capacities among elected officials that would include exercising their prescribed roles as elected officials, sensitizing them to the proper operation of municipal institutions, and ensuring their access to sound management information about their city's needs and potentials. Recent agreements have been signed with a Moroccan university to begin training locally elected officials in mastering the management process under their responsibility.
- re-sizing municipal structures to make better use of available human resources. There are generally too few staff to maintain effective working units based on standard organization charts. Municipal organization should be simplified to include fewer departments that might logically include: planning and public works; administrative services; economic activities; internal administration, budget and personnel; and local fiscal affairs. A much-simplified regrouping of tasks should be supported by a formal document and modernization in the conditions of employment.
- improving communication both within the municipality and with potential partners. This would require greater outreach to population groups with whom the municipality intends to work, NGOs, and other development groups. It should be kept in mind that the municipality is not an isolated organization but one that is located and develops in an administrative, economic, and geographic environment. Administratively, it is only one of the links in the overall administrative system. Economically and socially, it is part of a larger area that also includes parts of its external environment.
- involving the private sector in municipal activities. There is a need to look at new ways to encourage private sector delivery and management of urban services. In addition to improvements in management and services, the private sector could also help municipalities to modernize their management and technical expertise and relieve them of certain municipal responsibilities that can be done better by private sector operators.
- modernizing administrative structures to suit the size and activities of municipalities. Smaller municipalities find it difficult to resolve the technical, legal, and social challenges created by their rapid growth in size since they do not posses the qualified human resources to manage urban services according to expressed regulations.

14. Role of MATEUH and Decentralization of Authorities

The new Minister of Regional Development, Environment, Urban Planning and Housing's recent statements exemplify the important changes that have occurred in government thinking about decentralization. Key elements of these statements can be summarized as follows:

- real democratic progress needs to be consolidated and deepened;
- government needs to place the greatest importance on decentralization and MATEUH will do all in its power to advance the process of decentralization in a concrete manner by supporting efforts to increase the responsibility of local and regional agencies;
- government structure and practices need to deconcentrated and transformed to work more effectively with local authorities; and
- central government agencies need to change their habitual ways of working in order to listen more effectively to local authorities and elected officials in taking on their new responsibilities.

Although the Ministry is still in the process of reorganizing itself, round table discussions about its future

organization and orientation have provided some insight into how it intends to operate.

The Ministry is now composed of four distinct entities that include regional development, environment, town planning and housing. Each of these entities will be managed in an autonomous manner. They will be integrated into the Ministry in such a way that will not destroy their unique character yet allows them to synergize effectively with other departments. Sectoral Action Plans and programs for each department will be integrated and conceived within a decompartmentalized perspective. The intention is to expand the restricted nature of individual department activities to a broader vision that relates to the overriding goal and vision of the Ministry. In this way, several functions can be grouped together in order to maximize the positive impact of the resources available to the Ministry.

Despite their autonomy, each department is expected to represent a single ministry and adhere to the same language and vision. Vertical separations between departments will be avoided because many of the major issues to be dealt with are related (housing and environment, regional and urban planning, etc.) and have strong cross-cutting themes. The lack of vertical separation will also enable effective synergies to be developed and the maximum transparency to be maintained.

The Ministry will actively seek the participation of local authorities and elected officials as the cornerstone of its activities, not only as a means to adapt projects to the real needs of the people but also to engage stakeholders interested in project success. Ministry programs will respond to preoccupations concerning sustainable development, environmental protection, and the rational use of natural resources.

In order to put the new operational vision into place, the Ministry will develop a new image of itself and convey this image to others. To initiate this task, the Ministry has taken steps to establish an Interdepartmental Committee for Coordination and Animation that will ensure:

- integrated planning of programs and actions;
- supervision and follow up of efforts and progress in creating synergies;
- preparation of necessary arguments for decision making; and
- periodic meetings with agencies working under the tutelle of the Ministry.

Six working groups will be established to focus their efforts on:

- evaluation and revision of regulations, standards, and procedures for development;
- mastery of urban land development;
- reconciliation of general principles between land rights and concerns for economic efficiency;
- conversion of urban planning documents into proactive tools for concertation and participation;
- improvement in the positive impact of Urban Agencies; and
- creation of more transparent land markets and improved information systems and mechanisms for market self-correction.

These working groups will begin with Ministry personnel and then expand their membership to other agencies and the private sector over time.

Additional efforts will be made to improve spatial planning and pursue sustainable development. These will involve actions to:

- review the manner in which plans are made and their real impact on urban development;
- foster solidarity among stakeholders; and

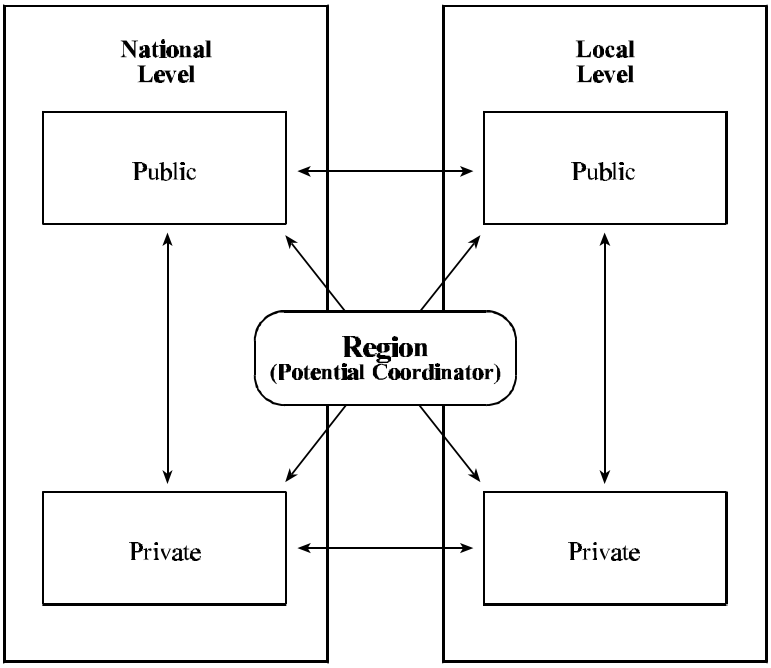
- rethink how to integrate elements of regional development, housing, town planning, etc.

The major improvement in the Ministry will be the change from a static to creative and dynamic culture based on innovation and the search for concrete results. This will require decentralized and deconcentrated management activities based on the objective of insuring organizational arrangements that are in conformance with the new regional emphasis.

D. Public-Private Partnerships for Development

Partnership arrangements provide one of the most effective ways to broaden both the financial and technical resource pools for local development. Local authorities acting alone cannot expect to respond to the multitude of development opportunities and needs within their jurisdictions. Local resource management, economic development and environmental protection will increasingly depend on coordinated approaches between the public and private sectors at the national, regional and local levels. Various combinations of development partnerships can be initiated aimed at reinforcing and expanding development activities. Figure 6.2 shows the very basic partnership possibilities that exist. Only a few of these possibilities have actually been tried in Morocco.

Figure 6.2
Potential Partnership Arrangements



Moroccan knowledge and interest in partnerships for urban development have been heightened by the international Best Practices results from the recent Habitat II Conference in Istanbul. As a result, both the numbers and types of partnership arrangements are now beginning to increase. Many of the proposed arrangements are not full partnerships since no real risk sharing is involved and no legal agreements are made between partners. Many of these arrangements are therefore "partnerships" in the very broad sense of the term.

Partnership efforts to date have focused to a great extent on providing trunk line infrastructure and developing residential land for housing low-income families. The basic, underlying arrangement is that municipalities would recover basic trunk line costs from land developers seeking authorization to subdivide and sell the land serviced by these lines.

2. Current Policies and Incentives

Until now, very few genuine partnership arrangements for urban development have been implemented. While arrangements between potential development partners can be formal or informal, institutional, or even ad hoc, the preferred approach in Morocco increasingly involves the use of agreements and/or contracts between the different partners. Although previous initiatives have not made full use of policy components that would enable various partners to co-exist in implementing a program for urban development, the current situation is clearly moving towards a much greater use of the partnership approach. The preparatory document for the recent Action Program 30, developed by MATEUH, specifically called for the encouragement of partnerships between public and private sector land developers and local government.

Comprehensive, opportunity-driven, and programmatic response to urban development through partnerships is both desirable and feasible within the context of Moroccan cities. Broad consensus exists concerning the need for partnership arrangements to assist the development of local-level capacity to

manage existing and potential resources in the most effective manner.

Moroccan government policies related to public-private partnerships are expressed through general legal documents and more detailed government circulares. The Ministry of Interior's circular No. 103 of July 26, 1994, for example, clearly indicates government preference for partnerships to develop government-owned land as opposed to simply selling this land to public or private developers. A second circular, No. 547 CAB dated July 14, 1995, outlines very precise instructions to public land developers when delegating certain responsibilities to the private sector. Briefly stated, the delegated projects must conform to existing plans and have a reasonable chance to succeed.

Just prior to the recent government restructuring, the Ministry of Housing had created a Department of Public Enterprises, Partnerships and Community Participation to pursue the possibilities of public-private partnerships. Whether this department remains part of the newly constituted Ministry will provide a good indication of the importance that government continues to place on the partnership approach.

One reason for the growing government interest in partnership arrangements with the private sector has been the tremendous difficulties it has experienced in attempting to expropriate private land for public purposes. The inherent delays and costs involved in this expropriation process have been substantial. Current thinking is that it would be much easier to encourage local land owners to enter into partnerships or to implement their own projects rather than to subject them to the very long expropriation process and prices well below the market rates.

The lack of proper land registration and/or legal title are two reasons why a significant number of landowners have not been willing to enter into partnership arrangements for the development and/or sale of their land. It is roughly estimated that up to 50 percent of the land within municipal boundaries is not properly registered. It frequently occurs that changes in landholdings due to inheritance and other factors are not legally registered in order to avoid the payment of certain taxes and fees. The resolution of group titles through the establishment of landholder associations may provide the most effective way to resolve these common land-related problems. Group titling is regulated by the Dahir of 1954 and subsequent modifications in July 1969. Although group titling was originally intended to resolve land problems in rural areas by providing a means to consolidate agricultural land, it could also be applied to peri-urban and urban areas. Landowner associations based on the Dahir of 1917 and its 1958 modifications would be created to enable reparcellation of sites selected for partnership development.

Until now, few partnership agreements have been made in writing or officially documented. The development of more formalized and transparent procedures for partnership arrangements would help to increase the confidence of all parties involved and to secure potential outside financing. This would facilitate both public and private developers in seeking partnerships with landowners for land development and with local authorities and municipalities for the provision of trunk line infrastructure.

National Public-Local Public Partnerships

As previously mentioned, effective decentralization depends to a great extent on national-local partnerships in support of urban development. No one participant can undertake the task of development alone. The most obvious form of partnership occurs between public agencies at the national and local levels. These types of partnership are absolutely essential to the successful implementation of policies and programs that promote decentralization and strengthen local government. Rather than act as agents of imposition and control as they have in the past, national level agencies must now make their considerable technical and managerial resources available to local authorities in order to promote local development. This is particularly true for public operators, such as ANHI and SNEC, which have already been working with local authorities to strengthen their performance. By working in partnership with these authorities, public

operators should be better able to improve communications, integrate local concerns into their partnership programs and avoid overburdening infrastructure costs.

One area of partnership that Morocco has not yet explored involves the financing of urban infrastructure and housing. Public-private partnerships in finance are very quickly becoming the most interesting and dynamic forms of partnership.

It has been estimated that the amount of financial resources FEC extends to municipalities generally covers only about 1/5 of their total investment needs. FEC has mainly financed the rehabilitation and maintenance of existing networks through its normal types of loans. The agency has not been involved in any partnerships where it actually shares some of the project risks with its other partners. Now that its charter has been transformed to that of an autonomous general purpose bank, FEC might be able and willing to promote more imaginative and diversified forms of partnership arrangements. It is currently involved in financing trunk line infrastructure to support an ANHI project in Oulad Teima.

An example of an effective financial partnership might involve municipality leveraging of central government VAT subsidies to generate greater private sector funds to finance local infrastructure. Using certain funds as a guaranty for other sources of investment might become an effective way to increase the amount of available financing.

National Public-Local Private Partnerships

ANHI recently identified a number of partnership opportunities with private sector developers in response to Ministry of Housing policies. A total of 18 potential projects were identified in ANHI's 1998 program for implementation in partnership with private developers. ANHI will develop the land and then wholesale large tracts to private developers for the construction of low-income housing units. The initial group of 12 projects is intended to produce a total of 1,848 low-income units. The second group of six projects is expected to produce another 944 units. The sale of land to private developers is expected to generate a total of 20 million DH in 1998.

Local Public-Local Private Partnerships

The most common types of development partnerships in Morocco have involved the activities of neighborhood associations. Current partnerships exist among these associations, communes, and utility companies to provide water, wastewater services, and solid waste collection.

4. Recent Activities and Performance

With the expiration of government land reserves during the 1980s, greater attention was given to development partnerships based on the French model of "Zones d'Aménagement Concertées" or ZACs. In this type of arrangement, landowners share in the cost of trunk line infrastructure and execute a simple form of reparcellation in order to provide land for roads and public services. A form of ZAC was tried in Tétouan but did not fully succeed due to inaccurate land surveys, complicated land ownership, insufficient financing, and unexpected shifts in housing demand to other areas of the city. Other ZACs have been planned but never implemented due to landowner opposition and other problems. Nevertheless, both the World Bank and MATEUH have called for a recommitment to the ZAC approach in order to facilitate urban development and deliver land for residential development.

Other types of partnerships involving local landowners have achieved somewhat greater success. For example, an association of landowners that included the municipality of El-Marrif recently participated in readjusting the development plan for a central area of Casablanca. The project was conceived and developed with technical and financial assistance from the Casablanca Urban Community and from the

Casablanca Urban Agency. Another successful partnership was created for the development of a 50-hectare site in Ain Sbaa. In this case, a group of neighboring municipalities contributed a total of 50 hectares of their land to private developers in return for a number of housing units that could be offered to agreed upon beneficiaries at reduced prices.

Another very interesting potential partnership is being planned for the plateau Sidi Bouzid in Safi. Under this partnership, the municipality of Biada will contribute 53 hectares of land to ANHI in return for a portion of the resulting serviced land. The financial surpluses generated from the sale of this land will be used to prefinance trunk line infrastructure for the other parts of the site. A loan from FEC will be used to pre-finance the initial trunk line infrastructure. Private land owners will also contribute their unserviced land to the project in return for agreed upon portions of serviced land. Landowner associations will be formed and reparcellation applied as necessary.

Three partnership projects under planning for the Souss-Massa River Basin should also be mentioned. A rather simple partnership arrangement is being planned for Tikiouine El-Hajeb and a 19-hectare site designated for residential development. The owners of the land have already agreed to pledge their unserviced land to ANHI in return for some 20 percent of the serviced marketable land. In Tikiouine itself, ANHI is working on a draft agreement with the municipality and developing a strategy and procedures for community participation in neighborhood upgrading and connection to newly available trunk line infrastructure. The proposed partnership in Oulad Teima will include the following components: municipality financing of access roads and trunk line infrastructure through a loan from FEC; ANHI and ERAC development of their respective 40- and 50-hectare sites and financial contribution to trunk line infrastructure; and community participation in servicing substandard neighborhoods with guidance from ANHI.

6. Current Constraints and Potentials

One of the keys to effective partnerships, particularly when private investors and land owners are involved, is the existence of clear and transparent rules to govern the inter-relationships between partners. Legally enforceable and clear definitions of the respective rights and responsibilities of the various participants in partnership arrangements are clearly required. Sample agreements for different types of arrangements should be relatively easy to obtain given the growing amount of worldwide interest and experience in partnerships for urban development.

The lack of planning documents for fast growing areas around the peripheries of Moroccan cities has also been cited as an impediment to the establishment of partnerships for land development. Given that city master plans exist for most urban areas, a zoning plan can be produced rather quickly that should suffice until detailed development plans are prepared. In many cases, the detailed plan would simply formalize the situation achieved under the zoning plan. It would also add monetary value to the resulting properties by contributing to the legalization of their tenure. The timing of the two planning documents might also be beneficial in the marketing of plots by holding down the initial price of the land while providing greater value once the project and detailed development plan had been completed.

Another potential partnership constraint involves the need to simplify planning documents and to provide greater flexibility in their application. Technically complicated planning requirements combined with lengthy and uncertain approval procedures add considerable risk to commercially oriented partnerships. Lengthy procedures for land titling and registration can be addressed through the Dahir of 1954 which concerns the registration of rural land and could also be applied to vacant land around the city periphery that is subject to informal urban development.

Article 30 of Dahir 1-76-683 of September 30, 1976 pertains to the organization of local government. It

clearly devolves responsibility for the planning and implementation of urban infrastructure to municipalities. The law could be further amended to fully support municipal involvement in all forms of land development partnerships.

As previously mentioned, a frequent constraint to land development partnerships can be found in the lack of formal registration and titling of the land. In some cases, it may be possible to create a landowner association that corresponds to the last formal titling of the area of land to be developed. This would allow subsequent divisions of the land to become part of the reparcellation effort and a matter to be resolved by the members of the association themselves.

A constraint to the identification of land parcels to be developed involves the difficulty that is confronted in attempting to obtain information on land ownership for priority areas indicated in town planning documents. Actively encouraging land development partnerships would help to alleviate some of this difficulty.

The lack of access to credit is another serious constraint to the formation of partnership arrangements. Very few land developers have access to bank credit in order to finance infrastructure development within the limits of their sites. Efforts should be made to develop arrangements that would include financial agencies as full partners in development.

Few municipalities have the financial resources to pre-finance infrastructure nor the technical resources to ensure that investment costs are recovered. Their capacities in terms of recovering fees and taxes remain very small despite incentives introduced by the new system of sharing revenues obtained through the VAT. This is an obvious constraint to their participation in partnerships.

Much of the residential land for low-income housing development is developed through small-scale, occasional and/or professional developers who wait for land opportunities and can afford to invest only in the rudimentary, on-site extension of existing infrastructure. In many cases these developers acquire land at the agricultural price, finance the development of a detailed development plan, and complete parts of the infrastructure on their own. Whether they be professional or only occasional land developers, they operate at a very slow and careful pace.

Local fiscal regimes also form constraints to the creation of land development partnerships by encouraging landowners not to service their land. Changes in the fiscal regime to provide incentives for land development in priority areas would also encourage the formation of partnerships to undertake these development projects. Currently, those landowners and developers who invest in the development of land have to pay taxes and fees, while those who simply speculate do not.

There is also a need to update current regulations and texts concerning the establishment of syndicates for urban landowners. Landowners should be permitted to form associations that are supported by municipalities and public developers for the purpose of providing off-site infrastructure. Public developers can play an important intermediary role by preparing operations that consider land ownership and town planning requirements and allow costs to be recovered from the landowners/association as authorizations are obtained to subdivide.

F. Public Participation in Governance

Public participation in governance relates to both formal government and community decision making in matters that affect people’s everyday lives. This cross-cutting issue also has very strong linkages to decentralization and to many forms of public-private partnerships. Decentralization and empowerment of local government are very closely associated with the extension and consolidation of democratic rights and

the restructuring of the relationship between the state and civil society. Decentralization and democratization also provide the context in which local government can advance effective strategies for market, political, and community enablement. It is important to ensure that this enablement process does not simply deny traditional responsibilities without creating the new ones needed to take their place.

Political enablement is achieved through many ways: political/administrative decentralization, democratization, managerial and institutional reform, the widespread use of NGOs and community-based organizations, and the adoption of enabling strategies for market and community in regard to the allocation of material and financial public goods and services.

Since the Communal Charter of 1976 the power of elected officials in local government has increased and their areas of responsibility have been expanded. Despite these official changes, local government in Morocco remains weak and inefficient due in large part to its general lack of administrative, institutional, and technical competence.

2. Impact of Urbanization on Public Participation in Governance

Widespread urbanization and the substantial growth of already highly populated urban areas have had very important impacts on public participation in governance through both formal institutions and informal relationships.

Formal institutions of governance in urban areas include regional and provincial representatives of central authority located in the most important cities and elected officials in urban centers and municipalities throughout the country. Informal components of governance include the rapidly growing number of neighborhood associations, which have now reached a total estimated to be between 17,000 and 30,000 associations. Public participation related to these two elements of governance continues to evolve as decentralization is pursued. Nevertheless, the rapidly growing emergence of neighborhood associations to serve a variety of practical purposes is the most notable and visible change in local governance and decision making over the past several years. Making the transition from discrete/localized experiences in community participation to the practice of urban governance is the next important step. Increased community participation is not a choice between government and private/community sectors, but rather the catalyst for greater coordination of their complementary roles and activities. The encouragement of community action and involvement lie at the core of good governance, effective urban management and sustainable development.

Deconcentration of Formal Government

The Moroccan government has attempted to maintain control over the country's rapidly growing population by steadily increasing the number of administrative units in tandem with the growth in population. Since the majority of this population growth has occurred in urban areas, government representation in the country's most important cities has significantly increased. It is in these urban areas where the new relationships for everyday governance are being developed.

Since the early 1970s, population growth and the size of existing urban areas have had a direct influence on the number and location of provincial government headquarters. The creation of new administrative centers has followed two slightly different scenarios. Under the first, rapid urban growth has been one of the major reasons for the selection of a city as new provincial headquarters. Under the second, the selection of a city as headquarters has provoked subsequent rapid population growth. In both cases, the designation of a city as provincial capital generates considerable physical development of the city in connection with its new administrative status. The number of provinces and prefectures increased from 45 in 1982 to 65 in 1994 in response to continuing population growth.

Although no legal criteria exists by which to designate an urban commune or municipality, recent increases in the number of urban areas with elected councils have been very significant. During the twelve year period from 1982 to 1994, the number of urban communes or municipalities grew almost fivefold, from 45 to 248. As a result, the average population represented by an elected municipal council decreased from close to 150,000 people to roughly 50,000. The rapid growth in number of municipalities was due to the division of larger cities into several municipalities and to a significant increase in the number of smaller municipalities. Urban communes with less than 20,000 inhabitants grew in number from 31 in 1982 to 110 in 1994, while the number of those with 20,000 to 100,000 inhabitants grew from 36 to 90 during the same period. The overall urban population during the same period grew by almost 4,700,000 people or roughly 54 percent.

Community Participation

Governance has also concerns everyday community decision making that has a direct effect on people's lives. Local neighborhood associations provide a growing opportunity for households to make group decisions about the physical, social, and economic environment in which they live.

4. Level of Institutionalization of Community Involvement and Decision Making

Over the past 15 years, a gradual though important shift has been taking place in government attitudes toward local governance and decision making. This shift in attitude has been largely due to urbanization and urban development. Whether they like it or not, public authorities increasingly recognize that government can no longer be the driving force behind urban development. Private sector and resident participation must be engaged in the preparation, implementation and management of this development in order to achieve success. Although the necessary, across-the-board awareness of the need for a new approach is finally beginning to emerge, very little practical change has occurred in the way that things continue to be done. Authorities still to not fully recognize that poor people can be active participants in the development process and not simply beneficiaries of its results.

A growing number of legal instruments and institutional arrangements characterize the current situation in terms of local governance and community participation. In actual practice, however, there remains very little involvement by local communities or their populations in decision making and very little coordination in the process.

Even though Morocco has had a long tradition of local associations for a range of different purposes, the involvement of neighborhood associations in urban development has been very recent. Prior to the Protectorate period, socioeconomic relationships were organized under the form of associations much like arrangements that continue to exist in certain rural areas. Rapid urbanization constrained efforts to create or maintain similar types of associations in urban areas. As a result, the government still does not know how to deal with the growing number of neighborhood associations. In general practice, these associations have been allowed to fill some of the gaps in urban service delivery, but have not been included in the overall urban development and management system. In more extreme situations, associations have not been recognized by local authorities nor given any degree of autonomy. They have often been confronted by obstacles created almost entirely by the lack of understanding and mistrust coming from public authorities.

Neighborhood associations can be very active in physical and social upgrading, environmental improvement, and the generation of employment. There is now little doubt that the efforts of these associations play an important role in terms of social regulation. One reason why government entities have been reluctant to encourage the association approach has been the questions and criticism that might be raised about actual management systems. Such a review, however, could provoke genuine changes in the functioning and policy evolution of Moroccan cities.

Most associations are created with limited objectives in mind. Based on their initial success, many of them very quickly expand their agendas. This is particularly true when a majority of middle class homeowners are involved.

Even when they appear to be effective, the institutional statutes on which neighborhood associations have been based are very weak and their legal structure precarious. Most neighborhood associations are considered simply as examples of those permitted under the law of 1958. Questions related to providing tertiary infrastructure to the neighborhood, which are often their prime concerns, are not considered under purview of this law. The legal text of the law is in fact both rigid and inadequate. It is rigid because it cannot exactly fit the activities of neighborhood associations and insufficient because it does not foresee many of the prerogatives necessary for the normal functioning of these associations.

There is a need to modify and up date existing legislation for associations that will give them a stronger base. Legislation originally intended to encourage the establishment of neighborhood associations has now become a means for the government to prevent their establishment and development. The neutrality of the public administration in relation to neighborhood associations is absolutely necessary. The autonomy of these associations needs to be recognized by government authorities and by political society as well.

While current law authorizes the constitution of associations, their creation can only legally occur with the backing of local authorities. The attitude of local authorities, even toward different associations within the same city, can be very ambiguous and often contradictory. Municipalities vigorously support certain associations while continuously refusing others. In many cases, local authorities essentially want to take over and control associations based on the influence of local political forces. The manner in which municipalities relate to neighborhood associations is frequently unclear and/or linked to electoral considerations.

There is also a lack of any formal relationships between associations. Although, informal contacts exist between certain associations due to geographic proximity or political affinities, public authorities generally do not favor a more structured movement or set of relationships. Some efforts at creating umbrella or regional based associations are now being made. Neighborhood associations have also been hampered by their own negative experiences due to poor management, inadequate official support and limits to voluntary efforts. In many cases, financial resources are inadequate to establish a structure for full-time operation. Monthly payments, though generally small, can still be too high for the poorest neighborhood families to pay. The lack of trained personnel is also a problem and there is always the risk that associations will become over-politicized.

Major problems and constraints include the basic frailty and inexperience of the association movement; the relatively new and ambiguous attitudes of public authorities toward their involvement in urban development; the lack of human, material, and/or technical support received from local authorities; the problems of coordination between major participants in the urban development process; and the absence of a culture of community participation among neighborhood residents.

In addition, not all neighborhood associations have been capable of maintaining good relations with the residents they serve. Some of these residents may be too poor to participate or pay, while others simply refuse. Associations have little recourse to make households pay. Depending on the nature of the association, there is also the risk of manipulation by landowner/developers to meet their own ends.

Many associations disappear once infrastructure is installed and they attempt to change from the initial provision of services to more long-term management and maintenance. This makes it important that associations adopt a degree of flexibility from the very start.

To a certain extent, government upgrading and rehousing projects have had a negative effect on the development of neighborhood associations. As the beneficiaries of government housing efforts, many residents in these projects do not see the need for neighborhood organizations. They often view these associations as financial extortionists.

An effective support structure for the creation and strengthening of neighborhood associations needs to be put in place. Associations currently do not receive any government support even though they provide much needed urban infrastructure and services that in most cases local authorities have been unable to provide. Municipalities need to work with associations in obtaining training and management systems that provide legitimacy to association efforts in much the same way that they do for housing cooperatives.

Another area to be developed, that will have a strong impact on decentralization as well, concerns the wide range of partnership arrangements that can exist between associations and municipalities in implementing tertiary infrastructure, encouraging local economic development and changing the mentality of the local population. For these reasons, there is a real need to reinforce the dialogue between associations and other potential partners. The current institutional situation does not provide for sustainable links between potential partners. Clearly defined roles are required that have not yet been established.

Municipalities can help stimulate initiatives to organize residents around concrete objectives, decision making requirements and development responsibility. Exchanges and coordination between neighborhood associations within the same city and region should be developed. At the same time, appropriate financial mechanisms need to be put into place.

6. Public Participation in Urban Development

The past 10 years have witnessed a nationwide movement to involve local associations in the process of urban development and management. The majority of these associations have structured themselves to address environment issues at the neighborhood level. They have flourished primarily in clandestine housing areas seeking to be to be recognized as full-fledged urban neighborhoods and to be incorporated into networks for everyday city services. In most cases, associations in these neighborhoods have taken charge of important functions that public agencies and local authorities have not been able to provide.

The numbers and activities of neighborhood associations have been increasing over the past several years. Their role in regularizing illegal housing and in managing the neighborhood environment has become increasingly important due to their ability to act as extensions or complements to public service providers within the municipality

The largest number of associations are located in neighborhoods around the urban periphery. They typically have been involved in building and managing mosques, improving the urban environment and use of green space, realizing public facilities and infrastructure, and maintaining neighborhood security.

Formal Neighborhoods

Associations in formal neighborhoods have primarily been involved with environmental management, mosques, and neighborhood security.

Associations that focus on environmental management are particularly active in medium size, homogeneous, newly built middle-income neighborhoods. While the majority of these associations were initially established to care for public spaces, many of them have expanded their activities to include the establishment of green spaces, public transport, socio-cultural facilities, neighborhood security, and even garbage collection. Once diversification begins, different commissions within the association are established

to address very specific concerns. In most cases, association fees are relatively modest and do not exceed 10 to 20 DH per month. While this seems reasonable for most middle-income households, others cannot or do not want to pay the fees and/or participate in the association. Some associations have also become involved with cooperatives that further food distribution and/or cultural activities. Many associations in formal housing areas find it difficult to maintain activities on a daily basis due to the fact that most active members are engaged in full-time jobs.

Associations in formal housing areas have also become involved in the management of public facilities. The lack of full infrastructure in new, developer-built subdivisions over the last several years has provoked inhabitants of these neighborhoods to take infrastructure matters into their own hands. Once housing construction has been completed, neighborhood pressure to provide public facilities becomes increasingly acute. Many neighborhood facilities, such as public baths, mosques, sports grounds, etc., are left to the residents to complete. In other situations, associations have been created to oversee the work of public and private land developers, mobilize government agencies to provide essential services, and sensitize neighborhood residents to issues of security, streetlighting, public transport, etc. The installation and management of mosques has also been one of the very early activities of associations in urban areas. High construction costs, however, force many neighborhoods to find a “patron” willing to finance a large part of the cost of construction. The result has been that government-desired transparency in the funding of these mosques has not always been satisfactory.

Neighborhood security has become a veritable obsession in many formal neighborhoods. The success of associations established to implement neighborhood watch systems can be very quickly perceived by inhabitants and can often lead to the rapid expansion of association activities to other areas.

The historic medinas are an example of formal neighborhoods where there have been very few associations for urban development. The high proportion of renters living in the medinas is no doubt part of the reason for this lack of associations. Other reasons why associations are not found in the medinas include: the mobility of the population and their perception of the medina as only a temporary housing solution; the lack of traditional social organizations; the high degree of friction between housing and economic activities; and the lack of leadership by elected officials who must respond not only to the population actively living in the medinas but also to the traditional property-holding families who generally live outside.

Informal Neighborhoods

Informal neighborhoods include both bidonvilles and clandestine housing areas.

There have been very few, if any, neighborhood associations in bidonvilles due to the fact that the majority of households living in these areas expect to be relocated. Many of these families have also developed an attitude of dependency vis-a-vis local authorities. Even during periods of rehousing or re-construction they are likely to be focussed on the construction of their own housing. Associations only begin once they have settled in and become full-time residents and owners of their neighborhoods.

Many clandestine housing areas, spurred by lax administrative attitudes and high land prices in formal housing areas have become the most attractive real estate market in town. They provide better-quality affordable housing than can be found in bidonvilles or rural areas. Because of their motivated populations, clandestine housing areas very quickly initiate demands for urban infrastructure and services. Many neighborhoods of this type organized themselves through associations in order to confront the disinterest by local authorities.

Government policies towards clandestine housing and its treatment of neighborhood associations changed considerably during the late 1980s as a more flexible and trusting approach towards these associations was

introduced. Clandestine housing became a form of housing to be recognized and rehabilitated as a result of its dynamic role in ensuring affordable housing for low and moderate income households. The very first associations in these areas were aimed at the integration of clandestine housing areas into the overall fabric of the city. The basic grouping of residents into neighborhood associations contributed to their search for legitimacy. This was particularly important in light of the large number of houseowners and economically mobile households living in these areas who desire to improve their housing situation.

In some cases, landowners and real estate agents have also played an important role in the creation of neighborhood associations. They have intervened in the process for two speculative reasons based on their own self-interests: to ensure the highest sales price and value for their land and to reassure and implicate residents in the development of infrastructure. The lobbying power and energy that land owners provide to support these associations generally continues only until the land is sold. Local authorities often support these associations as a means to control development in certain areas.

Three basic types of associations have developed in clandestine housing areas. They include: those initiated by landowners and/or developers, those initiated by public authorities, and those initiated by the residents themselves.

Landowner/developers help create associations in order to sell their plots and to regroup purchasers in a manner that can provide infrastructure within the area. In these cases the landowner/developer invests in part of the project and works with the association in collecting installment payments and implementing the work. The cost of infrastructure, instead of being paid entirely by the landowner/developer, as generally stipulated in the regulations, is divided among the plot purchasers themselves. The landowner/developer occupies a key place in the association during project implementation. Withdrawal of landowner support after his/her specific interests have been met often paralyzes subsequent activities by the association. People are usually too busy during the construction of their own houses to think very much about neighborhood concerns.

Beginning in the late 1980s, public authorities also began to play a greater role in stimulating the creation of neighborhood associations, particularly in unauthorized housing areas. The fundamental change in the government's attitude was due to the possibility of establishing a “win-win” situation with the local population and landowners. The basic objective of this new-found support by the government has been to work with residents and land subdividers in order to “limit the damage” from informal development, especially during the time that a new Detailed Development Plan is being prepared. For residents, the regularization of their neighborhood through the efforts of the association removes any potential risk of housing demolition by the city. For land developers, it increases the price of land to be sold.

Resident inspired associations began to take hold in the 1980s. The first of these associations concerned only very limited areas and objectives. Their major concerns were sanitation, water supply and electricity. These early associations often disappeared once the neighborhood was structured and serviced with basic infrastructure.

Basic Conclusions

Over the past several years, it has become very clear that rapid population growth and urbanization in Morocco have forced the state to look for new ways to manage and govern society at the local level. The increasing concentration of the urban population improves government access to the people and control of the population. It also makes it more and more imperative that infrastructure and services are provided to improve the quality of life. In order to respond to these needs, the government has created regional entities from above and sanctioned local associations from below.

By creating regional institutions, the state has tried to install new regulatory mechanisms and instruments to ensure the further extension of its actions.

The association approach to community participation, though still new and evolving, has shown some very promising aspects that include the increasingly positive role they have had in:

- improving the urban environment in very visible ways;
- creating small-scale employment related to security guards, garbage collection, etc.; and
- developing a participatory culture that encourages democracy in decision making, good citizenship, etc.

Many of the problems that associations face can be solved over time as greater experience and trust in the approach is developed. Until then problems at both the internal and external levels need to be addressed.

Internal problems include the fragile nature of relations between the association and neighborhood residents and the weakness of the associative culture among the residents of newly created neighborhoods. Not all households are willing to contribute financially to the success of the association. Few women are generally involved in its management, which is normally done on a voluntary basis and for a wide variety of reasons. The tediousness of tasks and the general lack of human and material resources very quickly expose the inherent weaknesses of voluntary associations. The financial management of these associations and encouraging residents to pay are always problems that are not fully supported by the legal and institutional framework or by assistance from the municipality.

External problems involve relations with the municipality and other government agencies. Despite many clear successes in their activities, associations continue to face problems in their relations with other institutions, government agencies, and local populations.

Further difficulties arise when actions move into the areas that call into question the use of municipal resources. In many cases no lines of strategy or rules of conduct have been established between associations and elected officials. Many of these officials do not understand the objectives and/or significance of associations.

For their point of view, associations can work with elected officials, against them or without them. The relationship between associations and elected officials is often a matter of convenience for one or the other party and can also be part of a political stance. This makes it necessary to develop effective lines of communication and information that work both ways. It requires a well-adapted legal and institutional framework, the training of elected officials and associations, and the development of collaborative and partnership type relationships.

After an initial period of mistrust and hesitancy in regard to the role of neighborhood associations in urban development, the government has slowly begun to work with these associations in a more flexible, mature, and pragmatic manner. This atmosphere is likely to continue to improve as more associations produce their intended, even limited, results. The impact of the Earth Summit and Habitat II conferences, which focused on ways to reinforce the institutional, legal, organizational, and financial capacities of nongovernmental agencies working in urban areas is also having a positive effect on current thinking and decision making in Morocco.

H. Water Management and Environmental Health

2. Water and Urbanization

The relationship between water and urbanization is a bidirectional one. Continued high rates of urbanization are putting increased pressure on already limited water supplies throughout the country.

Although irrigation is still by far the biggest user, water requirements for urban and industrial uses are growing much faster than those for agriculture and hydroelectric power. In regions where the water supply is relatively inelastic, including the Souss-Massa, this increased pressure from urbanization is heightening the conflict between different water users in the river basin.

The availability of water influences the character more than the pace of urbanization. In the absence of recent social surveys of rural-urban migrants, it is difficult to say definitively what impact the perceptions of water availability in urban areas is having on rates of migration. Yet given the high rates of migration into neighborhoods that are chronically underserved, it seems unlikely that water shortage or low water availability is putting strong downward pressure on rates or rural-urban migration. Rural residents come to urban areas primarily to gain access to employment, and will in most cases be willing to buy water from trucks or obtain it from other sources if their entry neighborhood is not equipped with house connections or public standposts.

As urbanization outstrips the capacity of public agencies to extend water networks or otherwise provide drinking water services, the low coverage and service levels obtaining in peripheral neighborhoods and shantytowns is one of the defining characteristics of Moroccan cities. Clandestine settlement takes place by definition outside of the law. Land is subdivided and sold without the knowledge of planning authorities and infrastructure providers. Once unit construction begins, a market for potable water develops. Although public sector water providers have proved willing in most cases to sell water to residents of informal neighborhoods, the capacity of these agencies to keep up with peripheral urbanization is limited. Moreover, the providers are interested in waiting for densities to increase so that return on investment in off-site and on-site infrastructure is higher. For both of these reasons, water provision lags behind urban growth at the periphery of many Moroccan towns.

Trends in the institutional arrangements for water service delivery suggest that capacity is improving over time. Some régies, which have historically provided water service in large cities, are turning over their networks to private firms. Casablanca was the leader in this area, issuing a concession to La Lyonnaise des Eaux (France) for extension, rehabilitation, operation and maintenance of the water and wastewater systems. Rabat-Sale is expected to conclude another concession arrangement with a Spanish/Portuguese consortium. Other cities are likely to follow in the future.

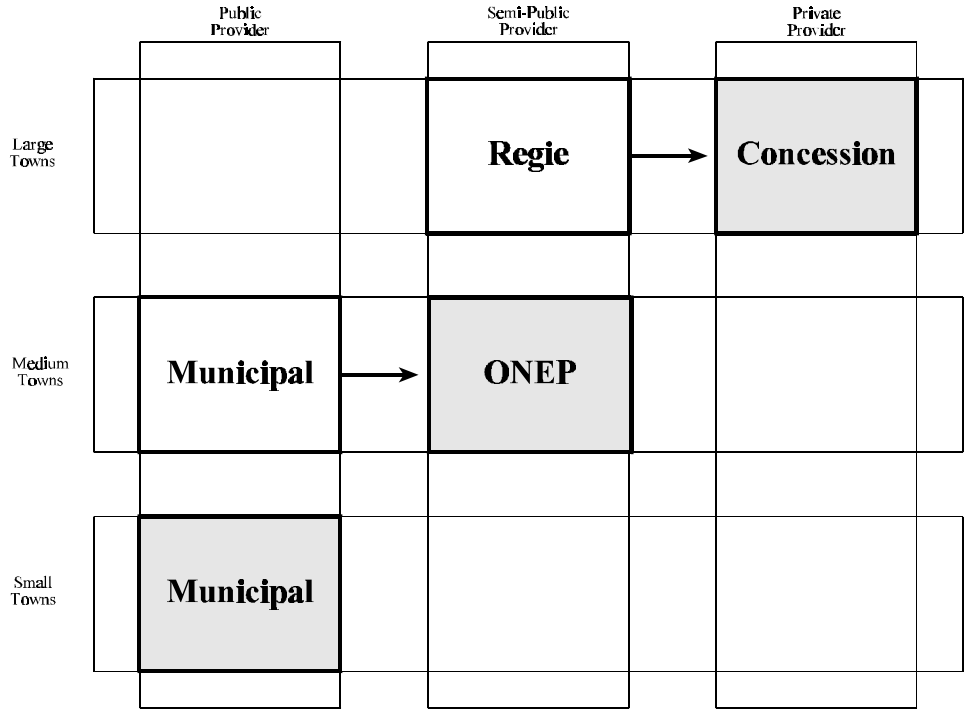
At the same time, many medium-sized towns are turning to ONEP to take over their water systems. This trend had more momentum in some regions of the country during the 1980s, but ONEP continues to receive requests from medium-sized and small towns to become “manager” of their water systems, including overseeing system extensions and rehabilitations, and establishing direct billing relations with clients.

Other towns, especially smaller ones, prefer to remain direct providers of potable water service. Some of these would rather not pay or pass on to users the increased prices that accompany ONEP’s service improvements; others prefer to retain control over the revenue stream that the water tariff produces.

This overall pattern of shifting from public to semi-public to private water providers, more advanced in the larger towns than in the medium-sized and small ones, is consistent with (1) the greater efficiency of the “less public” service providers, and (2) the feasibility of private sector participation in the water sector, at least during this initial phase. In general, a shift to the right in Figure 6.3, meaning a step farther down the public-private continuum, is associated with greater innovative and operational efficiency, which results in lower service costs (given no change in service levels), or better service levels for no change in cost. This type of progression is to be welcomed to Moroccan water sector policy makers and users alike. However, there are limits to how far toward private provision different size categories of cities can go. Larger towns have an advantage in that their bigger markets are more attractive to private companies, especially

international ones. In addition, services in larger towns are already provided by parastatals (régies) who are generally financially stronger and perceived as more creditworthy by private investors and operators. Both of these factors work to stimulate private sector interest and participation in concession offers or other types of service delegation. In medium-size towns, not only are the markets potentially too small to interest international operators, but the local governments are weaker, and therefore the perceived risks of entering into contractual relationships with them are higher. Private firms may therefore be reluctant to pursue contracts with cities in this size category. In addition, there is a "wait and see" policy which generally accompanies public service privatization initiatives in developing countries. Both the firms and the public sector entities will wait and see the results of the first few contracts — profit margins, payments records, investment levels, responsiveness of service providers, etc. — before engaging in other contracts of the same type. Private firms will similarly want to verify the profitability of concession contracts in large towns before pursuing them in medium-sized ones. For all of these reasons, it is appropriate at this stage of Morocco's water privatization initiative that contracts be let in large towns for the time being, with the option of extending this model to medium towns in the case of positive results.

Figure 6.3
Institutional Trends in Water and Waste Service Provision



It is also fitting that GOM parastatals focus their attention on medium-sized towns before turning to small ones. Public sector funds for the takeover and improvement of urban water supply services are limited, and needs—defined in terms of population unserved and associated public health and environmental risks—are greater in medium-sized towns than they are in small ones. Although ONEP's stated policy is to assist towns of both categories, they have tended to focus, with good reason, on medium-sized towns to date.

Figure 6.3 also begs the following question: If large towns are progressing appropriately from parastatal to private provision, and medium-sized towns are moving from public to parastatals, would it not be possible for medium-sized (or even small) towns to skip the intermediate step and go right to private provision? The discussion of privatization feasibility above suggests that it would be difficult in the short run for medium-

sized towns to achieve this jump, given the probable reluctance on the part of private firms to pursue private water provision contracts with them. However, if contracts in the larger cities go well, it is possible that private sector interest in medium-sized towns will pick up, in which case it would be advantageous for these towns to consider privatizing their services in order to take advantage of the greater efficiencies which private providers can offer. Given the relative technical and managerial weakness of municipal technical services departments, however, it would be important for local governments to acquire assistance from private consulting firms and/or national agencies for feasibility assessment, preparation of bid documents, and contract negotiation and supervision. Otherwise, local governments would open themselves up to the risk of paying more for private services than is required under market conditions.

Another institutional option for water service provision is users associations. Users associations allow residents of a particular neighborhood to gain access to water, with or without house connections, either more quickly or at a lower cost. In the Souss-Massa basin, users associations have been difficult to implement in the RAMSA service area. A USAID-financed pilot project will test the ability of users associations to provide wastewater services in Drarga, outside of Agadir.

4. Other Urban Environmental Services

Sewerage and Sanitation

The dynamic between the wastewater sector and urbanization is less well articulated than that between water and urbanization. Unlike the water sector, the wastewater sector has not been the object of large-scale Government investment in the post-colonial area. There is no central government technical authority in charge of wastewater, as there is in the potable water sector (ONEP). Wastewater has essentially been left in the hands of local governments, who in most cases lack the know-how and funding to formulate and implement an adequate response.

In the absence of adequate services, high population growth and even higher urban population growth are putting increasing pressure on the natural environment. Urban growth is outstripping wastewater collection system extension. Wastewater coverage lags 20 to 30 percentage points behind drinking water coverage across urban Morocco. Where wastewater network extension is taking place, the increased volume of wastewater dumped untreated into public waterways is causing surface and groundwater pollution. This pollution is negatively impacting public health.

While demand for water supply is high, demand for wastewater collection and treatment services is lower. Although unquantified in the absence of a household survey, demand for water connections is reported to be high by urban water distributors (RAMSA, ONEP, municipalities). These same providers report that households are generally less willing to pay for wastewater collection and treatment, the negative impacts of which are felt by the entire community in terms of environmental decay and declining public health, but which do not always directly affect the household itself.

As a result of this classic discrepancy in effective demand for water and wastewater services, one key to improving liquid waste management in Morocco is to “piggy-back” wastewater onto the water sector. That is, demand for water should be used to generate financing for improvements to wastewater collection and treatment facilities. The resulting increase in the end cost of water will serve as a disincentive to excessive consumption, in turn responding to the need to manage water demand. While the Water Law establishes the legal basis for such a policy, additional work is required in both articulation of regulations and definition of institutional responsibilities. Specific proposals for improving the performance of the wastewater sector are put forth in Section 6.4.5 below.

Solid Waste Management

The dynamic in the solid waste management sector is in many respects similar to that of the wastewater sector. Solid waste management has not benefitted from large scale investments or other interventions by the GOM, but rather has been left in the hands of local governments and their agencies (régies). As a result of the technical and managerial limitations of these entities, solid waste collection services are inadequate in most of the country, both from the perspective of the percentage of the population served and the method of waste disposal, which is in almost all cases unsanitary. In the face of continuing high rates of urban growth, it will be necessary to buttress municipal capacities in this sector in order to prevent threats to public health and the natural environment which current solid waste practices represent.

6. Implications for Environmental Health

Deficiencies in environmental service management have a direct impact on public health. Contamination of groundwater and surface water resources by fecal matter is a major cause of diarrhea, cholera, typhoid fever, and other water-borne diseases. In urban areas in Morocco, this type of contamination occurs when:

- on-plot wastewater facilities such as pit latrines and septic tanks are used in high-density settlements, which in turn leads to seepage of excessive amounts of wastewater into the aquifer; or
- piped collection systems discharge untreated wastewater directly into the natural environment, which in turn either penetrates the ground, thereby contaminating groundwater resources, or contaminates surface water, such as rivers and streams.

Inadequate solid waste disposal can also cause bacteria, viruses, and parasites to enter the potable water system. Leachate seepage from unsanitary dumpsites can contaminate groundwater supplies. Dumping of waste into stream and river beds pollutes surface waters, especially during the rainy season, and can lead to subsequent penetration of contaminated river water into the aquifer.

Finally, reuse of untreated wastewater for irrigation can lead to the spread of similar diseases. This is especially true where wastewater makes direct contact with vegetables or other crops that do not undergo subsequent processing prior to consumption.

While the cause-effect relationship between poor environmental services and water-borne diseases is well known, it is often difficult to extrapolate from health statistics. For example, a rise in the incidence of cholera does not necessarily reflect inadequate wastewater disposal; it could also result from unsanitary conditions obtained on the premises of a particular food producer or distributor. In most cases, however, diarrhea, cholera, and typhoid are caused by fecal contamination of the drinking water supply. An analysis of the evolution of these diseases will provide a strong indication of the impact of inadequate environmental services described earlier in this section.

The Ministry of Public Health reports that the incidence of cholera increased by 115 percent between 1994 and 1995. Sixty percent of all cases were in urban areas; 311 rural municipalities were also affected. The regions with the highest rates of infection were the Sebou river basin (51 percent of all cases) and the North (24 percent). The Sebou is the most polluted river basin in Morocco. While the main source of biological pollution in the Sebou is untreated wastewater, industrial effluent from olive oil processors in the Fez area is also a major contaminant.

From a longer-term perspective, there have been three major outbreaks of cholera since the 1970s, each affecting a greater portion of the population. In the 1990 outbreak, national incidence climbed to 250 per 100,000 people. The Sebou basin, and in particular the region of Fez, has been the hardest hit. The Oum Er Rbia basin, another heavily polluted watershed, has recorded the second highest levels of cholera infection.

Typhoid fever has been in decline in Morocco since the 1980s. Only 4,128 cases were reported nationally in 1994. However, most recent outbreaks have been (1) caused by contaminated drinking water, and (2) centered in the Sebou and Oum Er Rbia basins, indicating potential causal linkages to deficient waste management.

Diarrhea is the main cause of infant mortality in Morocco, accounting for 39 percent of deaths among children aged 0-5 in 1994.[5] As shown in Table 4.29 in Section 4.5.2, national rates of diarrheal infection decreased by about 17 percent in both 1995 and 1996. This drop is primarily the result of the increase in water supply following the 1994-95 drought. In spite of this national trend, some provinces experienced an increase in the incidence of diarrhea during the same period. Taroudannt Province, for example, reported almost no change in 1995 and a 42 percent increase in 1996, indicating that other factors, perhaps fecal contamination of the water supply, were influencing the incidence of the disease.

Reported cases of viral hepatitis, another water-borne disease, oscillated between 2,500 and 3,500 during the period 1987-1994, without showing any clear upward or downward trend. Peaks in 1987 and 1994 correspond to drought years, indicating a possible link between water supply and incidence. However, since no corresponding peak occurred in 1992, during which another drought occurred, the correlation is inconsistent. No causal relationship can be inferred.

These data indicate that outbreaks of water-borne diseases tend to concentrate in the main *inland* population centers. This does not indicate that treatment facilities are better on the coast, but rather that the absorption capacity of the ocean is much greater than that of rivers and streams. The same amount of pollution produces a much higher level of contamination in the Sebou or Oum Er Rbia rivers, for example, than it does in the Atlantic Ocean or the Mediterranean Sea. Given the high population, extensive agriculture and significant industrial activity in these two basins, it is not surprising that observed water quality tends to be low. The DGH reports that 68 percent of water testing stations located immediately downstream from major cities or industrial installations in the Sebou and Oum Er Rbia basins reported low water quality in the mid-1990s. The cities concerned include Taza, Fez, Meknes, Sidi Kacem, Sidi Sliman, Khemisset, and Tiflet. The Sebou is reported to be contaminated from where it joins the Fez river to the Atlantic Ocean. Downstream from sugar refineries, levels of oxygen in the Sebou are observed to be extremely low (less than 1 milligram per liter), indicating high levels of bacteriological contamination.

Chemical contamination of water supplies also poses health risks. The main chemical contaminants in the water supply are nitrates and fluoride. As indicated in Table 3.54 in Section 3.6.2, 73 percent of nitrate pollution comes from the urban sector (wastewater), only 4 percent from the industrial sector, and 23 percent from the agricultural sector. Widespread use of fertilizers and pesticides in irrigated areas are responsible for the entry of nitrates into groundwater supplies. While recognizing the potential health risks posed by these substances, the Ministry of Public Health is not able to quantify their impact on the incidence of specific diseases. The Ministry estimates that impacts are in any case much lower than those caused by the bacteriological pollution detailed above.

8. Water Infrastructure Needs Assessment

Additional infrastructure will be required for the Souss-Massa basin to meet its future water requirements and to safeguard and enhance the quality of existing and future water sources. The following assessment of infrastructure needs will focus first on requirements for water production and distribution, and then on needs in the area of wastewater collection and treatment.

Ministry of Environment/Ministry of Public Health, 1997.

The evaluation of water infrastructure in the entire river basin begins with the estimation of future water needs. The Higher Council on Water and Climate's "Souss-Massa Integrated Water Master Plan" projects future water requirements by type of use through 2020. Agricultural water requirements are projected to rise modestly from 1,008 million cubic meters in 2000 to 1,077 million cubic meters in 2020. Most of this water will be consumed in the irrigated areas of the Souss river basin, with less than 15 percent going to the Tamri, Tamraght, and Massa watersheds. Demand for potable and industrial water, on the other hand, is projected to increase by 300 percent from 49 Mm^3 in 1993 to 154 Mm^3 in 2020. These projections are based on the following assumptions with regard to drinking water distribution:

- increase in the percentage of the urban population with a water connection to 88 percent;
- improvement in the efficiency of the distribution system to 74 percent; and
- increase in the percentage of the rural population with access to potable water to 80 percent in 2010 and 95 percent in 2020.

In order to satisfy the above requirements, the Master Plan identifies a number of investments which will lead to an increase in the amount of water mobilized for agricultural, urban, and industrial uses. These include:

- construction of 7 new medium-sized dams and 13 small dams;
- installation of water-saving irrigation facilities on 19,850 hectares of farm land;
- construction of a canal linking the Aoulouz dam with the Sebt El Guerdane irrigated zone; and
- construction of wastewater treatment plants in Greater Agadir and reuse of treated wastewater for watering open spaces and irrigation in Chtouka.

In addition, the plan calls for the extension of the water treatment plant at Issen in order to accommodate demand in Greater Agadir beginning in 1999. Additional drinking water for Agadir will be mobilized by the Aït Hammou, Tamri, and Tamraght dams. The total cost of the components of the plan designed to satisfy water needs in Greater Agadir is estimated at 2,550 million DH (in constant 1993 DH).

While the Master Plan takes future extensions of water distribution systems into account when making projections, it does not include urban or rural water distribution investment components. There are no norms for coverage or service levels for potable water in Morocco. The only quantitative measures take the form of objectives included in the DGH water sector strategy, which aims to bring coverage (percentage of population with a private or shared potable water connection) up from 80 percent today to 90 percent in 2000 and 98 percent in 2020. This objective is not codified into law, and no water distributor — be it a private firm, Régie, ONEP, or a municipality — is required to attain these objectives. In the case of Souss-Massa, the urban coverage target adopted by the Water Master Plan is 88 percent of the population connected to the municipal network; in the rural sector, the target is 95 percent of the population served by the public distribution system (either through house connections or standpipes).

Although no precise figures are available on the percentage of the urban population connected to the water system, ONEP data on small and medium-sized towns indicates that about 60 percent of the urban population outside Greater Agadir is hooked up. Combined with RAMSA's figure of 85 percent in Greater Agadir, this brings basin-wide urban coverage to 76 percent. Increasing this percentage to 88 percent (the mean of the high and low scenarios developed in the Master Plan) means connecting an additional 777,000 people to municipal networks throughout Souss-Massa. This is equivalent to a 129 percent increase over the number of people currently connected (604,000).

In the rural sector, attaining the Water Master Plan target of providing potable water access via the public distribution system to 95 percent of the population by 2020 implies a seven-fold increase in coverage from

today's low level of 13 percent. Under this scenario, the population with access will increase from 118,000 today to 1,204,000 in 2020. Infrastructure requirements are therefore the complete set of system extensions, new networks and standposts needed to provide potable water to this additional rural population of 1.2 million.

In the wastewater sector, infrastructure requirements for piped collection networks again depend on the targets adapted. There are no standards for wastewater collection system coverage in urban areas in Morocco. Such standards would, in fact, be very difficult to define, since on-plot liquid waste disposal systems are environmentally sound in many types of lower-density settlements, especially if geological and hydrological conditions limit pollution of drinking water supplies. Government has, however, established the target of increasing wastewater system coverage to 90 percent of the urban population connected to the piped water system by 2000, and 100 percent by 2020. In the Souss-Massa basin, the percentage of urban population connected to the piped water system, as estimated above, is about 76 percent. In the next two years, it is unlikely that this figure will climb much above 80 percent. Therefore, attaining the short-term goal in the watershed will mean increasing wastewater collection coverage rates from the current level of around 62 percent (using the estimate of 40 percent urban coverage outside of Greater Agadir) to 80 percent. Infrastructure needs are equal to system extensions reaching approximately 144,000 people over the next two years. Addition system extensions would be required to connect 588,000 more people between 2000 and 2020 in order to attain the second coverage target (90 percent of population connected to the piped water supply by 2020).

With respect to wastewater treatment, the National Environmental Protection Strategy identifies types of water quality targets for wastewater discharged into the natural environment. These would include limits on biological oxygen demand (BOD), chemical oxygen demand (COD), nitrates, phosphates, and selected heavy metals such as chromium and lead. However, no particular norms are defined. Effluent standards in Tunisia, although not sufficiently differentiated by type of receiving environment, provide an indication of the types of water quality parameters that usually apply to treated wastewater:

- BOD 30 mg max. of O_2 per liter of water
- COD 90 mg max. of O_2 per liter of water
- Nitrates 50 mg max. of NO_3 per liter of water
- Phosphates 0.05 mg max. of PO_4 or P per liter of water

Currently, less than 0.5 percent of the 50 million cubic meters of wastewater collected throughout the region is treated before discharge into the natural environment. Although RAMSA plans to construct a treatment plant in the near future, there are no concrete plans elsewhere in the river basin to begin treating water. To comply with effluent standards similar to those above, it would be necessary to build and operate wastewater treatment plants throughout the region.

10. Policy Reform Agenda

The framework for water and wastewater policy is established by the new Water Law. This framework is essentially an appropriate one for the important objectives of rationalizing water use and limiting water pollution. But to ensure smooth implementation, it will be necessary first to introduce additional regulations that clarify roles and responsibilities of the different sectoral actors, and second to take additional steps to link water and wastewater management into one integrated, effective and mutually enforcing sector.

The following actions should be taken in order to operationalize the Water Law:

- establish procedures for negotiating water/wastewater tariffs and other activities requiring consensus building among water users and polluters;

- develop an implementation plan for the creation and operationalization of the basin agencies; and
- define more specifically the rights and responsibilities of the basin agencies with respect to the levying and collection of fees and other user charges.

Linking wastewater development to water sector development not only makes sound technical sense, but will also maximize user contributions to the construction, operation and maintenance of wastewater collection and treatment systems. Wastewater development should therefore be "piggy-backed" onto water sector development. This linking activity should be based on the following principles, which can in turn inform a policy dialogue with the GOM in this sector:

1. **One agency should be responsible for water and wastewater in a given town or region.** The two sectors must first be coupled at the institutional level. This is the precondition for a technical coupling that will guarantee wastewater development, as described in #2. below. This principle applies to any service provider in a town of any size category. The more "private" providers are already moving in this direction: private sector concessionaires have taken on and will take on responsibility for both sectors in Casablanca and Rabat-Sale, respectively. Some régies are also active in both water and wastewater (e.g., RAMSA). There is currently less linkage in small and medium-sized towns, where ONEP sometimes is responsible for water alone.

2. **Provision of adequate wastewater facilities in all areas receiving water connections should be mandatory.** This is the key principle for guaranteeing wastewater system development. Essentially, when a neighborhood submits a request for water system extension to the local provider, the provider should assess the existing wastewater disposal system and decide whether it is adequate. In some low-density areas, away from aquifers, often in smaller towns, on-plot disposal systems will be judged adequate, and the service provider can prepare a proposal that includes only a drinking water provision component. In other neighborhoods, on-plot systems will not be judged sufficient to guard against water-borne diseases and protect the natural environment, and the service provider should then prepare a proposal will includes water supply and wastewater collection components. The neighborhood residents will have the choice to accept of reject the entire proposal; they will not be allowed to choose only the water component and exclude the wastewater component. Wastewater treatment issues will have to be addressed at the level of the municipality or the agglomeration, but proposals to particular neighborhoods should include a wastewater tariff that will generate funding for construction of sewage treatment plants.

3. **Water tariffs should include a wastewater component.** Costs for the two services should be either bundled together in one tariff, or should be included as two separate tariffs on the same bill, to be collected at the same time by the same entity. This internationally accepted practice is the easiest way to improve wastewater tariff collection rates, since wastewater essentially becomes a "captive service" when the provider has the opportunity to turn off the water supply in the case of non-payment of a wastewater bill.

4. **Water/wastewater tariffs should be increased to achieve a tradeoff between (a) maximum revenue generation for wastewater sector development, and (b) affordability for all income groups.** The combined tariffs cited above should be increased to the maximum point where monthly charges are still affordable to low-income groups consuming small quantities of water. Anything less than that amount will result in loss of potential revenue required in particular for investment in wastewater collection and treatment facilities. Anything more will result in decrease in access of low-income groups to potable water, a socially unacceptable outcome.

5. **Institute financial incentives, including grants and subsidized financing, to encourage development of wastewater treatment facilities as required.** The limits on affordability will determine the ceiling of the

water/wastewater tariff. The tariff will in turn go a long way towards determining the amount of funding available for wastewater system improvements. If there is a significant gap between user-generate funding and the cost of providing adequate works, Government should consider introducing incentives — in the form of one-time grants and/or below-market interest rate loans — to water/wastewater providers in order to facilitate the required investments.

VIII. Findings, Issues, and Conclusions

This chapter brings together the findings, priority issues, and conclusions derived from the data and analysis presented earlier in the report. It is intended to provide a series of basic insights into urbanization and urban development in Morocco at the national, regional, and local levels. The insights gained from this study should help the Mission elaborate its new program strategies in a manner that will be able to support and benefit from Morocco's ongoing transformation to a modern, predominantly urban society.

B. Basic Findings

The first part of this chapter presents the basic findings of the study. These findings have been summarized from information already provided in the report. They are presented for national, regional, and local levels in keeping with the geographic structure of the assessment. It should be pointed out, however, that findings from one geographic level will have impacts on the others.

2. National Level

Ten major findings are presented for the national level. They essentially concern population growth; economic development; poverty; urban structure and hierarchy; urban plans and regulatory system; environmental infrastructure; substandard housing; potential competition and conflict over water, government deconcentration, and decentralization; and the role of civil society as a major component in urban development.

1. Rapid urbanization continues, particularly in certain regions and for small and medium-size cities, despite the declining overall rate of population growth.

With an average annual growth rate of 2.3 percent that has been declining since 1971, Morocco's total population today is close to 27.3 million people. Some 47 percent live in cities, up from 29 percent in 1960.

Since 1960, the annual average growth rate for urban areas has been more than three times greater than the rate for rural ones: 4.0 percent as compared to 1.2 percent. The rapid increase in urban population is the result not only of natural growth (characterized these last several years by declines in both the birth and mortality rates) and rural-urban migration (in which the average annual shifts in population have involved some 193,000 people), but also of the change in status of a number of settlements from rural to urban (based on political and/or administrative initiatives) and to the extension of many city boundaries.

Since 1982, urban population growth has been more pronounced in certain regions (like Souss-Massa) and in small and medium-sized cities (such as Aït Melloul and Temsia), where the annual rate of growth has exceeded 6 percent.

According to the Department of Statistics, rapid urbanization will continue at least until the year 2020 but at a declining rate. In 2020, the total population of Morocco is projected to be 37.38 million people, with 70 percent living in cities. Future demographic growth will have very important consequences on population needs, particularly in terms of health, education, shelter, and employment. All of these newly emerging needs should be added to current recorded deficits and addressed together if any overall improvements are to be made.

2. Efforts at economic diversification and modernization have not reduced the vulnerability of the national economy to major changes in climatic conditions.

Although the Moroccan economy is quite diversified, agriculture continues to play the determining role and has been able to show both real and sustainable growth in its performance. Agriculture contributes as much

as 29 percent of value added and 30 percent of the country's exports. At the same time, the sector has been subject to frequent and rather serious periods of drought that have dragged the economy into the classic crisis situation exhibited by a decline in GDP, contraction in demand, and increased need for imports. Morocco has experienced major droughts in 30 of the last 88 years, or about one every three years. Shorter periods of drought have also occurred with equally destructive impacts on the economy, such as in 1992 (37 percent drop in production) and 1996 (43.9 percent drop).

Despite attempts at diversification, Morocco does not benefit very much from strong economic performances in other sectors of the economy. The significant economic growth observed between 1971 and 1978 proved to be unsustainable because of associated debt and the absence of simultaneous development of the financial sector. The real positive result from that period has been that private sector production is now more than 60 percent of the national value added. Nevertheless, the strong growth observed in the 1970s has gradually slowed and is now increasingly weak.

The average growth rate of nonagricultural activities over the past 27 years can be shown as follows:

Between		1971-1978:	6.1 percent
Between		1979-1990:	3.8 percent
And between	1991-1997:	2.2 percent	

Manufactured products have mainly been oriented toward internal consumption. They represent only about 25 percent of exports. The industrial fabric is largely built on import substitution and has benefitted significantly from custom, tariff, monetary, and institutional protection.

3. <u>Poverty is declining but remains a very important issue linked to underemployment and unemployment in urban areas.</u>

The current labor force is estimated to be 32 percent of the total population and predominantly male. Roughly 16 percent of this labor force is unemployed. The unemployed population has increased substantially since the 1980s. The entry of growing numbers of young people into the labor market and the limited possibilities of creating formal employment for them will no doubt drive up the unemployment rates over the coming years.

The overall battle against poverty is being waged within this context of increasing unemployment. Roughly 13 percent of the total population is considered to be "poor," a condition more widespread in rural areas (18 percent) than in urban ones (7.6 percent) and higher in smaller cities (11.3 percent) than in larger ones (4.8 percent).

4. <u>The tendency toward restructuring and reorganizing the national urban framework has continued even while urban problems become more difficult and complex.</u>

The rapid increase in the number of urban centers has been one of the most visible indications of strong urban pressure in Morocco over the past several decades. Within a period of 34 years, the number of cities in Morocco has more than tripled. Average city size has also increased by 37 percent between 1971 and 1994. This process of urbanization has touched virtually every area of the country, but with clear regional differences. Recent urbanization has been more rapid in areas with below-average levels of urbanization, such as the Souss-Massa River Basin.

Other factors continue to combine with the strong push of observed and projected urbanization to reshape the urban sector. These factors include the consolidation of the national urban framework and regional urban groupings, the filling out of the pyramid distribution of cities by their size, the establishment of a

counterweight to urbanization along the coast by well-supported reinforcement of urbanization in the interior, and the constant administrative and socioeconomic partitioning to keep pace with the increasing number, greater proximity, and hierarchy of cities. These emerging conditions will determine the nature and rhythm of social, economic, and cultural flows; the future relationships between cities and their hinterlands; the new equilibriums within and between economic regions; and the ongoing spatial structuring of the country.

Such an evolution, however, cannot be achieved without creating negative side effects, which include the further aggravation of already well-established areas of stress in different domains (health, education and battle against illiteracy, employment, housing, etc.). While rapidly growing cities are well aware of the diverse problems that result from their lack of control over the urbanization process (noticeably visible in the form of new substandard housing development around their peripheries and the inadequacies of infrastructure and public facilities), rural agglomerations that have only recently become urban centers are experiencing much the same problems. They do not have the necessary basic structures in place to fulfill their new urban functions. In both cases, there are tremendous difficulties in creating employment due to their limited economic base. One of the causes of this fundamental problem is the absence of adequate means to plan and effectively guide urban development.

5. Urban legislation and related institutional arrangements have not proved adequate for urban growth management over the past 50 years and are even less able to do so since the passing of two new planning laws in 1992.

Urban planning legislation has evolved very slowly. While the nature, speed, and size of urban development in Morocco have changed considerably since the country's independence in the mid-1950s, the legal framework established to deal with this growth has become increasingly tedious and restrictive. Although high in technical quality, many of the current planning documents and regulations do not respond to the real development needs of a large part of the Moroccan population. They either present very serious constraints to urban development or are largely ignored. The current inadequacies in these urban plans and regulations concern both their content and the manner in which they are applied.

The rate at which key planning documents have been produced also falls short of what is required to adequately cover all of the existing municipalities and to keep these documents legally binding and up-to-date. To cover the current 248 urban communes with planning documents having a 10-year validity, and to fill the existing backlog in these documents, there is a need to formally approve some 36 detailed plans per year over the next several years. Until now, the average annual rate of plan approval has been only eight.

The search for effective planning mechanisms through the development of laws, regulations, and government circulares has been driven by the persistent inability of public authorities to control large-scale, unauthorized, and substandard development on the peripheries of many cities. This type of largely residential development is the result of a combination of negative factors that include among others:

- depletion of government land reserves previously used for low-income housing development;
- virtual elimination of land expropriation as a means to obtain land for public sector housing projects;
- establishment of local taxes on subdivisions that discourage formal private development; and
- obligations of land developers to contribute to the financing of often nonexistent off-site infrastructure.

The Law 12-90 of 1992 introduced stringent new requirements that seriously reduce the amount of land that can be legally subdivided and offered for sale on the market due to the fact that close to 50 percent of the potentially developable land remains unregistered.

In most cases, urban planning documents have been prepared by central government agencies working on behalf of the individual municipalities. The weak technical capacity of these municipalities, the lack of staff capable in urban planning, a basic preference by planners for technical competence over implementation concerns, and the lack of planning education for elected officials have all contributed to a situation in which local authorities have little ownership of their urban development plans and little commitment to their implementation.

6. Chronic infrastructure and service disparities remain between urban and rural areas and between city centers and their urban peripheries.

The Government of Morocco plans to mobilize additional water to respond to growing demand, largely fueled by population growth. Through increased mobilization of groundwater and particularly surface water, the *Direction Générale de l'Hydraulique* plans to increase annual supply to 17,010 Mm^3, which would be roughly equivalent to need. At that point, the country will already be using 85 percent of its total potential water sources.

All cities with more than 20,000 inhabitants and 85 percent of towns with populations between 5,000 and 20,000 have piped wastewater collection networks. Despite the prevalence of collection networks, however, connection rates are relatively low. It was estimated in 1993 that 69 percent of urban households are connected. Rates vary greatly by town size, dropping to under 50 percent for cities with populations under 50,000 to around 40 percent for towns with between 5,000 and 20,000 inhabitants.

Low coverage is not the only problem that afflicts wastewater collection systems. In many towns, between 15 and 25 percent of the network requires rehabilitation. This is largely due to the decay of the older, generally combined, portions of the network that were installed during the colonial period. The prevalence of combined networks in cities of all sizes poses a health hazard during periods of heavy rain, when stormwater and wastewater alike overflow onto city streets and into water courses.

The collection coverage for solid waste averages 85 percent in urban areas, with significant variation from town to town. Coverage is estimated to be 100 percent in Casablanca and Rabat, 85 percent in El Jadida, and 40 percent in Tangier. Shantytowns and "clandestine" informal settlements have inadequate or no solid waste collection. The collection rate in rural areas is estimated at 2 percent.

Urban waste disposal is more problematic than collection. Only one third of collected urban waste is recycled or disposed of in sanitary landfills. The remainder is deposited into uncontrolled dumpsites that lack perimeter fencing, leachate management, and regular maintenance, such as compost or earth layering. Only four cities — Rabat, Sale, Casablanca, and Agadir — have solid waste treatment plants.

Electrification of urban areas is near 100 percent, while rural areas, with only 20 percent of households electrified, rely primarily on charcoal and firewood for cooking and heating.

In a general manner, most community facilities and services are located within medium- and large-sized cities. The proportion of facilities dedicated to small cities (less than 20,000 inhabitants), which represent almost 62 percent of all urban centers, barely exceeds 20 percent. The same situation is observed between medium and large cities. Cities with populations between 100,000 and 200,000 inhabitants (frequently the provincial capitals) have the greatest number of public facilities and services.

7. General resurgence of substandard housing and shantytowns.

Since independence, the struggle against substandard housing has been a major ongoing focus of the

government. Initially, it was expressed through two types of intervention based on the size of the bidonvilles to be upgraded (Program for Small and Medium Size Bidonvilles [PMB] and Urban Development Projects [PDU]). Given the persistence of the problem and the increase of even more underserviced and unauthorized neighborhoods (built out of solid materials), the government redoubled its efforts in 1985 by creating a specialized agency for urban upgrading (ANHI) and by requiring other parastatal agencies under the Department of Housing to contribute to this effort.

The new national policy to improve substandard housing focused on the implementation of land development projects, generally prefinanced by the beneficiaries themselves, within an overall city-scale approach. The government also reduced the number of social housing units it built in favor of shantytown upgrading. Direct government housing construction had reached its limit due to the high costs of construction, the level of insolvency of the target population, and the lack of finance.

Despite these new government policies and programs, a renewed and very visible outbreak of bidonvilles has occurred due to chronic problems in the delivery of housing for low- and moderate-income families.

8. Increasing competition for limited water resources at the national and regional levels.

Of the 150 billion cubic meters of precipitation that Morocco receives within an average year, 121 billion m^3 is lost to evaporation, leaving 30 billion m^3 in the national hydrological system. Approximately 21 billion m^3, or two-thirds of this water, can be mobilized each year for human use — 16 billion m^3 from surface water (rivers, streams, lakes) and 4 billion m^3 from groundwater. Morocco currently mobilizes 11 billion m^3 of surface water and 2.7 billion m^3 of groundwater, for an annual total of 13.7 billion m^3, or 69 percent of total potential resources.

Groundwater resources are distributed through 80 aquifers, half of which are close to the surface, and therefore easily accessible. More than 40 percent of all groundwater resources are located under the Moulouya, Tensift, and Sebou river basins, with most of the remainder found north of the Atlas Mountains. Less than 5 percent of groundwater resources are located in the arid eastern and southern regions.

Rising water demand for urban, industrial, and agricultural uses is putting greater pressure on existing water resources. Agriculture has been and will continue to be the single largest user, consuming almost 10,000 Mm^3 in 1998 and about 13,500 Mm^3 by the year 2020. While urban and industrial uses are currently more modest at 2,000 Mm^3, they are increasing more rapidly than any others. Urban uses will rise to 3,805 Mm^3 annually by 2020, representing a threefold increase, as compared to the 56 percent increase for irrigation. In relative terms, therefore, urban water uses will put more pressure on national water resources over the next 20 years than any other use.

9. Deconcentration of government representation has increased as part of the ongoing decentralization process.

Morocco's rapid population growth and its virtual doubling in physical size to the south have made the continued centralized management and administration of the country increasingly difficult. Realizing this, government has increased its emphasis on decentralization and deconcentration.

The density and complexity of existing administrative units in Morocco, however, makes it very difficult to identify exact lines of responsibility for many tasks. The ambiguity in the current system effectively reinforces the role of central government as the ultimate decision maker at the expense of local authorities. In addition, legislation to strengthen the participation and powers of locally elected officials has almost always been accompanied by a parallel strengthening of the powers of appointed executive officials.

The Moroccan government has attempted to administrate the country's rapidly growing population by steadily increasing the number of administrative units in tandem with the growth in population. Since the majority of this population growth has occurred in urban areas, government representation in the country's most important cities has significantly increased. It is in these urban areas where the new relationships for everyday governance are being developed.

Since the early 1970s, population growth and the size of existing urban areas have had a direct influence on the number and location of provincial government headquarters. The creation of new administrative centers has followed two slightly different scenarios. Under the first, rapid urban growth has been one of the major reasons for the selection of a city as a new provincial capital. Under the second, the selection of a city as capital has provoked subsequent rapid population growth. In both cases, the designation of a city as provincial capital generates considerable physical development in connection with its new administrative status. The number of provinces and prefectures increased from 45 in 1982 to 65 in 1994 in response to continuing population growth.

Although no legal criterion exists by which to designate a municipality, recent increases in the number of urban areas with elected councils have been very significant. During the 12-year period from 1982 to 1994, the number of municipalities grew almost fivefold, from 45 to 248. As a result, the average population represented by an elected municipal council decreased from close to 150,000 people to roughly 50,000. The rapid growth in number of municipalities was due to the division of larger cities into several municipalities and to a significant increase in the number of smaller municipalities. Urban communes with less than 20,000 inhabitants grew in number from 31 in 1982 to 110 in 1994, while the number of those with 20,000 to 100,000 inhabitants grew from 36 to 90 during the same period. At the same time, the overall urban population grew by almost 4,700,000 people, roughly 54 percent. All of these changes have involved a steady deconcentration of government administration.

10. Government has experienced a growing realization of the role of civil society as a major component of urban development and modernization.

Over the past 15 years, a gradual though important shift has been taking place in government attitudes toward local governance and decision making. This change in perception has been largely due to urbanization and urban development. Public authorities increasingly recognize that government can no longer be the driving force behind urban development. Private sector and resident participation must be engaged in the preparation, implementation, and management of urban development in order to achieve the desired results. Although the necessary, across-the-board awareness of the need for a new approach is finally beginning to take shape, very little practical change has occurred in the way that many things are done. Authorities still do not fully recognize that poor people can be active participants in the development process and not simply beneficiaries of its results.

A growing number of legal instruments and institutional arrangements characterize the current situation in terms of local governance and community participation. In actual practice, however, there remains very little involvement by local communities or their populations in the decision-making process about a city's future and very little coordination.

While current law authorizes the constitution of associations, their creation can only legally occur with the backing of local authorities. The attitude of local authorities, even toward different associations within the same city, can be very ambiguous and often contradictory. Municipalities vigorously support certain associations while continuously refusing to recognize others. In many cases, local authorities look to take over and control various associations based on the play of local political forces. The manner in which municipalities relate to neighborhood associations is frequently unclear and/or linked to electoral

considerations.

The past 10 years have witnessed a nationwide movement to involve neighborhood-level associations in the process of urban development and management. The majority of these associations have structured themselves to address issues related to the immediate neighborhood environment. They have flourished primarily in clandestine housing areas seeking to be recognized as genuine urban entities and/or to be incorporated into infrastructure networks for everyday city services. In most cases, associations in these neighborhoods have taken charge of important functions that public agencies and local authorities were not able to provide.

The numbers and activities of neighborhood associations have been increasing over the past several years. Their role in regularizing illegal housing and in managing the neighborhood environment has become increasingly important as a result of their ability to act as extensions or complements to formal public service providers.

4. Regional Level

To a large extent, basic findings at the regional level mirror many of those found at the national and local levels. Because the Souss-Massa region is relatively small and now urbanizing faster than many other areas in Morocco, there is greater concern for natural resource use and management.

1. Population in the Souss-Massa River Basin is growing at a faster rate than both the national level and administrative region. Internal migration within the region continues to be high with important impacts on the development of the region.

The population of the river basin grew from 865,000 in 1971 to 1,878,000 in 1997. This was an increase of 117 percent within a period of 26 years. It compared to increases of 83 percent for the administrative region and 78 percent for all of Morocco during the same period. The average annual rate of growth grew from 2.9 percent between 1971 and 1982 to 3.1 percent between 1982 and 1994. It was projected to reach 3.2 percent between 1971 and 1997, compared to a projected 2.2 percent for the national level and 2.4 percent for the administrative region.

Migration is a very old phenomenon in the region. Population growth rates in the past have been influenced by the large amount of migration to other areas of Morocco and to foreign countries. Since 1971, and especially since 1982, out-migration seems to have slowed in relation to observed population growth, but also as a result of new economic and social development conditions within the region and their impacts on demographic indicators. In 1988, the proportion of the total regional population affected by migration was 5.6 percent. It declined in 1994 to 4.6 percent, with the proportion for men at 6.0 percent and that for women at 3.8 percent. Close to 95 percent of this migration occurred within the country and particularly within the region of Agadir.

Concerning the distribution of the population growth between urban and rural areas, the same phenomenon observed at the national level can also be seen at the regional one. Due to the later-starting urbanization of the Souss-Massa basin, however, the contrast is even greater. The current level of urbanization in the river basin is only 44 percent, while that of the national level is 53 percent. Nevertheless, there has been an average increase in the ratio between urban and rural populations of 6.0 percent per year compared to 2.8 percent for the national level.

2. The region is the second most important center of economic activity in the country but the economic balance among tourism, agriculture, and urban development is very fragile.

The Souss-Massa region was an area of traditional agriculture and production activities with a very slow rate of development until the 1970s. The reconstruction of Agadir after a major earthquake destroyed close to 90 percent of the city brought in large amounts of capital that spurred economic development and created a significant amount of employment. Tourism also began to grow in the 1970s and large amounts of credit were given to its development, especially for the construction of new hotels. The economic impacts of reconstruction and tourism activities were very important to the region as a whole and, in particular, to the development of the areas immediately around Agadir. Since very little housing was available within Agadir itself, both Inezgane and Aït Melloul became centers where local employees were able to settle.

The construction over a 10-year period of some 15,000 housing units, 12,000 hotel beds, urban infrastructure, primary roads, and a new international airport represented significant investments from which virtually the entire region benefitted. The main components of the region's economy (agriculture, tourism, and urban development) are now very closely linked and depend on the sustainable use of the same natural resource base. Each major element of this economy needs the success of the others to succeed.

3. Rural poverty continues to be a major problem within the region.

Although poverty is distributed throughout all economic regions of Morocco, it is a greater concern in rural areas and in small and medium-sized cities. This is particularly true for rural areas in the south, which have a higher rate of poverty (close to 28 percent) than other economic regions. Many of these poor families are likely to move to urban areas in search of work and economic improvement. A recent national report on human development by the UNDP estimated the phenomenon of poverty within such regions as Souss-Massa to be close to 25 percent of the population.

4. Significant changes in the urban structure of the region are taking place as it continues to urbanize.

The number of municipalities within the region has grown from 9 in 1971 to 20 in 1994 and has involved cities of all sizes. It has particularly affected those with more than 50,000 inhabitants that grew in number from one (Agadir city) to five (Agadir-Anza, Inezgane, Aït Melloul, Dcheira, and Taroudannt). With the exception of historic Taroudannt at the far eastern end of the river basin, the four other cities are all part of Greater Agadir (currently composed of the municipalities of Agadir, Anza, Inezgane, Aït Melloul, Ben Sargao, Tikiouine, and Decheira). Greater Agadir has an influence that goes well beyond the regional limits of the Souss-Massa River Basin. It provides administrative, economic, and social services to farther away areas, such as the Saharan provinces.

The urban structure of the region is also affected by rapid urban development along the Souss River and the national highways that run parallel to it, as well as by the uncontrolled development of unserviced neighborhoods around the peripheries of many cities.

5. Legal planning documents, limited registered land for development, and absence of local authority ability to control development restrain rather than encourage urban and housing development.

Current urban development plans, regulations, and procedures related to housing (typically around 60 percent of the built-up area) have forced a growing number of would-be house owners to build their units illegally. Although the Urban Agency of Agadir has prepared some 47 planning documents for cities and centers throughout the region, only the SDAU for Greater Agadir has been formally approved and put into law. This means that virtually all of the other cities and urbanizing areas in the region have no legally enforceable planning documents. Given the current rates of land registration, it would also take more than 50 years to register and title all the urban land necessary for legal residential development over the next few years. The fact that local authorities have very little initial input into the preparation of planning documents

and regulations also means that they have little understanding or interest in their application. The combination of these factors leads to serious bottlenecks in the development approach, unauthorized development, and poor development decisions by electoral officials.

6. Environmental infrastructure (water, wastewater, and solid waste collection) for cities outside of Greater Agadir is generally inadequate or incomplete.

RAMSA is responsible for water and wastewater services throughout Greater Agadir, which, with an estimated population of 500,000 in 1994, includes the Municipalities of Agadir, Anza, Bensergao, Dcheira, Inezgane, Tikiouine, and Aït Melloul. Eighty-five percent of households in the RAMSA service area have a private or shared connection to the piped water supply network. Thirteen percent are served by standpipes, while 2 percent have no potable water service.

Consistent with its mission to provide water distribution services in small and medium-sized towns, ONEP serves about one-half of the population of the built-up area between Greater Agadir and Taroudannt. Beginning with Taroudannt in the 1970s, ONEP has also taken over the municipalities of Oulad Teima, Taliouine, Oulad Berrehil, Aït Iazza, and Biougra in the Souss river basin and Sis Ifra, Massa, Ras Muka, and Mirlift in the Massa basin. Coverage levels in ONEP areas are typical of those in small and medium-sized towns throughout Morocco and are generally in the range of 65 to 75 percent.

Towns in which neither RAMSA nor ONEP are active are obliged to provide their own drinking water. These towns generally include the smaller urban municipalities and many of the rural ones. The coverage levels of municipal networks are generally lower than those of ONEP-managed networks, typically reaching only 50 to 70 percent of households. The majority of the remainder are served by standposts. Extensions to the piped water system are often implemented by neighborhood associations, then tied into the network by the municipality.

As in other regions in Morocco, wastewater collection and treatment lags far behind the provision of drinking water. Connection levels are relatively good in Greater Agadir (75 percent), but drop quickly with the decrease in city size outside the RAMSA service area. Almost none of the collected wastewater is treated.

Given RAMSA's limited geographical scope and the slow pace of ONEP's urban wastewater program, most wastewater services in the Souss-Massa basin continue to be delivered by local governments. In the larger towns, old combined piped systems often serve the urban core, while peripheral areas rely on plot solutions or have no wastewater services. Interviews with ONEP personnel and municipal technical staff indicate that coverages in small and medium-sized towns, including those located along the Souss between Agadir and Taroudannt, are in the 30-50 percent range. None of the collected wastewater is treated, but is generally dumped into river or stream beds in the interior and into the ocean along the coast.

Solid waste collection in urban areas is carried out by local governments in core areas of large and medium-sized towns and by private hand-drawn cart operators in most peripheral neighborhoods and small towns. Conversations with municipal technical departments indicate that, on average, between 70 and 90 percent of the population is served, of which two-thirds benefit from municipally provided service. Coverages vary greatly between the larger urban municipalities (where 50-80 percent of the population receives municipal collection service) and the rural municipalities, in which service is often provided by private hand-drawn carts.

Greater Agadir has the only "sanitary landfill" in the Souss-Massa basin, although it is rather poorly managed. A large regional compost facility was built with European bilateral assistance, but the unit is

experiencing start-up problems, including poor product quality. A smaller pilot compost operation has been proposed under the USAID-financed Water Resources Sustainability project. The pilot operation will combine domestic and agricultural waste to make an agricultural grade compost. The feasibility study concluded that in the greenhouse vegetable sector, demand for compost is on the rise as more and more farmers shift away from local manure and chemical fertilizers. With the exception of the Greater Agadir landfill, all solid waste collected in the Souss-Massa basin is deposited in uncontrolled dumpsites. Dumping in river beds is common and has been observed in Oulad Teima and other towns along the Souss.

7. Bidonville or shantytown housing is on the rise in the region.

Bidonville or shantytown housing is on the rise due to the insufficient supply of housing units to meet low-income demand and to the paradoxical situation in the Agadir area where a basic lack of land exists alongside an abundance of unserviced plots.

According to the census of 1994, close to 12 percent of the urban households in the Souss-Massa River Basin were living in bidonville or rural housing units. The percentage for both types of housing reached 25 percent in the rural prefecture of Chtouka and 21 percent in the urban prefecture of Agadir.

The growing presence of bidonvilles has seriously degraded the urban landscape of Greater Agadir. Even though the phenomenon of bidonvilles is not new, there has been a growing proliferation of precarious housing construction in the area over the past several years. The situation has become alarming, since the last survey of bidonvilles showed the number of bidonville households to have increased by some 34 percent between 1989 and 1992 (from 9,350 households to 12,530 households). As a result of this growth, Greater Agadir now has the third-highest concentration of bidonvilles among Moroccan cities (after Casablanca and Rabat-Sale). With increased administrative control over existing bidonvilles and their growth over the last few years, their number has remained fairly constant since 1992. The growth in unauthorized housing seems to have shifted in favor of “clandestine housing” or underserviced housing built out of solid materials.

8. Growing potentials for water conflict exist between agricultural and urban uses.

In terms of water problems, the Souss-Massa River Basin, along with the region of Marrakech, are two large inhabited regions of Morocco where the conflict over water between urban and rural uses is becoming increasingly perceived by the local population and public authorities. In fact, the geographic characteristics of the Souss-Massa region, such as the aridity of its climate, the large areas of agricultural lands, and the growing population density in the plain, have all had noticeable impacts on its development. The main problem concerns rising demand in the face of relatively static supply. Since the flow of the Souss River is irregular and that of the Atlas mountain water courses relatively weak, little additional supply can be mobilized by new investments.

9. The Souss-Massa region has no organization responsible for coordinating its planning and development.

The newly created Regional Council is a positive step toward greater emphasis on regional planning and development. Given the traditional slowness of institutional evolution in Morocco, however, it will take some time for this new entity to be fully operational and to assume its responsibilities for regional development. In the meantime, the current complex system of government administration will remain in place (wilaya, province, urban community, municipalities, etc.) and the individual components will continue to protect and manage their own affairs. Several existing agencies, such as ANHI, FEC, the Department of Hydraulics, and the Urban Agency of Agadir, already work on a regional basis and could

immediately support the implementation of programs that are more regionally oriented.

10. Association movement is relatively new with more associations in semi-rural areas than in the region's cities.

Neighborhood associations in the region are not as prevalent or experienced as those in other areas of Morocco. The majority of these associations are working in semi-rural and rural areas rather than in the urban ones. Local authority attitudes in the region are still ambivalent. Some, like the province of Chtouka Aït Baha, are enthusiastic and supportive, while others are not. A regionally oriented association is being formed that can provide some assistance and structure to those working at the local level. The number of active associations in the region is estimated to be around 120.

6. Local Level

Issues at the local level concern the two selected cities of Aït Melloul and Temsia. The cities were chosen as being representative of the urbanization process now taking place within the region. They are both rapidly growing cities located along the Souss River. While Aït Melloul is in a relatively advanced state of urbanization, Temsia is a former rural center recently classified as urban.

1. Aït Melloul and Temsia are typical centers of rapid urban population growth in the region.

The population of Aït Melloul, currently estimated at more then 100,000, represents close to 12 percent of the total population of the Souss-Massa River Basin. Its population has grown precipitously over the past 26 years, from roughly 6,000 in 1971 to 103,000 in 1997, a total growth of more than 1,600 percent. The population of the urban center of Temsia has more than doubled, from 3,200 in 1982 to 6,730 in 1997. Its average annual rate of growth has been close to 5 percent and is expected to increase to 6.7 percent between 1994 and 2010.

2. The economic bases for Aït Melloul and Temsia are relatively weak and narrow.

Aït Melloul is located at an important intersection of the region's main roads and on the fringe of Agadir. Its advantageous location has enabled the city to become a large truck stop for the transfer of goods and the site of popular open air markets for agricultural produce. As Agadir has grown, Aït Melloul has also become a center for industrial development. It has used large areas of land at its disposal for the spontaneous development of an industrial area. Currently, 50 production enterprises have located in this area, as well as some 20 important commercial enterprises.

In terms of economic development, Temsia is a purely agricultural area. Crops include tomatoes, garden vegetables, and the fruits from the surrounding orchards. Most of the agricultural operations around the city are small with very little mechanization. The new airport, which is located within the commune's overall boundaries, opened in 1997 and provides a certain amount of fees to the commune.

3. Urban Core Areas in the two cities are surrounded by haphazard unauthorized development.

Due to their recent and rapid growth, both cities have small urban cores located along the major roads and surrounded by rapidly expanding areas of haphazard residential growth.

4. Planning documents are still in the approval process with implementation susceptible to be influenced by whims of elected officials.

The detailed development plans for both Aït Melloul and Temsia are being prepared by private consulting

firms. The plan for Temsia has been transmitted to the Ministry of Interior for study and response to public comments. Without any plan for Temsia, much of the land to be developed has been subdivided and sold without permission to other families.

5. Serious deficiencies exist in environmental infrastructure for water, waste water, and solid waste.

RAMSA is in charge of water supply and wastewater in Aït Melloul. The total number of clients is 7,924. Most of the northern half of the town, above the Biougra road, has received piped surface water from the Souss network since 1995, while the southern half benefits from ONEP well water. Connection coverage is estimated at 50 percent of households, most of which live close to the city center. Peripheral neighborhoods without piped water include El Mzar and Kasba (two former douars that have become major growth areas with substantial clandestine housing development), Kusbitar, Azrou, and Timilseet. Households without connections have access either to standposts or wells or both. Some neighborhoods with fairly extensive network development still have standposts.

In Temsia, about 80 percent of the population benefits from drinking water service. Seventeen hundred households (roughly 10,000 people) have connections to the municipal piped water system, while 350 residents are hooked up to neighborhood water distribution systems financed and maintained by users' associations. About 20 percent of the population get their water from 22 municipal standposts. The remaining 20 percent either have private wells or have to haul water over long distances.

The liquid waste sector lags behind water supply in Aït Melloul and Temsia as in other parts of the Souss-Massa basin. RAMSA has been responsible for wastewater collection in Aït Melloul since 1991. Only about 30 percent of the population is currently connected to the piped collection system. The total number of customers is 4,240. The systems covers about half of the city center and none of the satellite developments, such as Azrou and El Mzar. Most households unserved by the network use either septic tanks or pit latrines.

Services are even less developed in Temsia, where no collection network exists. The large majority of households use septic tanks or pit latrines. Temsia is outside of RAMSA’s service area.

If on-plot disposal poses few risks in most towns, concentrated discharge of wastewater collected through a network can create serious problems. In Aït Melloul, wastewater is dumped into the river bed downstream from the town, so their is no health impact on town residents (although downstream neighbors can suffer the consequences of this practice). But the threat of water-borne disease increases when (1) waste is concentrated or combined with stormwater (as in Aït Melloul) and discharged into the river bed, where the aquifer tends to be more shallow and where the sandier soil facilitates percolation, and (2) when farmers collect the wastewater at the discharge point and use it for crop irrigation. As noted in the regional section, this is known to happen in some towns, notably Oulad Teima.

Solid waste collection in Aït Melloul is a municipal service. Approximately 55 percent of households benefit from daily collection of household waste in nine flatbed trucks. Another 35 percent, located mostly at the urban periphery (e.g., Azrou, Casbah, and El Mzar), have their waste collected daily by carts. Cart collection is organized by users' associations, which hire private individuals to perform the service. The remaining households (approximately 10 percent) have no solid waste collection service.

In smaller towns, including many “rural” municipalities (*communes rurales*), all solid waste collection is performed by private individuals contracted by users' associations. This is the case in Temsia, where approximately 80 percent of households are served in this way. Collection is performed daily. Charges are 10 DH per household per month. The collectors dump the waste in an uncontrolled site adjacent to the

Souss River. Officials in Temsia expressed their preference for solid waste collection to become a municipally provided service.

6. The proportion of substandard housing in the housing stock is growing.

There is a large amount of substandard housing in Aït Melloul, with some 7.4 percent of the population living in shantytowns. The proportion of the population living in unauthorized or substandard housing is growing. In Temsia, roughly 11 percent of the population lives in housing classified as rural. New substandard housing is being built between the main road and the Souss River in small, dispersed groups. Most of the land between these groupings has apparently already been sold for the construction of additional, substandard housing.

7. Municipal organization is very flat with few professional employees.

The Municipality of Aït Melloul has a total of 7 professional and qualified administrative staff, even though its official organization chart shows 5 divisions, 11 departments, and 34 different offices. The official organization of the municipality is obviously very shallow with little relation to the actual work that is done. There is a poor fit between the organization of the municipality and its activities.

In Temsia, the president of the council, who is also a parliamentarian for the region, is the driving force behind the activities of the city.

8. Associations are active in small urban centers that are unable to provide services.

Residents in Temsia have formed an association for the drilling of wells, construction of a water tower, and provision of water to households in Temsia. There is a virtual absence of recognized associations in Aït Melloul involved in urban development.

D. Priority Issues

Urbanization in Morocco encompasses an extensive range of issues that relate to the interaction between urban growth and development. The current process involves a very fundamental transformation of Moroccan society from a predominantly rural one to one that is increasingly urban. Never before has this type of change occurred in Morocco on such a large scale or wide geographic basis. It has not only provoked massive changes in the physical location and basic needs of the population, but has also introduced major changes in their traditions, patterns of consumption, attitudes, institutional arrangements, knowledge base, political awareness, etc. The very size and complexity of this change makes it difficult to identify a general consensus of priority issues. The five issues presented in this section only attempt to suggest a few areas to be addressed. They represent some of the more common institutional concerns related to urban development in Morocco in general and to development in the Souss-Massa River Basin in particular.

Issue 1: Insufficient Coordination of Development Efforts

Insufficient coordination in development efforts is a common issue in countries experiencing very rapid urbanization and urban growth. The problem in Morocco, however, is exacerbated by the dual administrative track of elected and appointed government authorities and by the ambiguities and uncertainties in their relationships. The lack of clearly specified inherent roles and responsibilities within these agencies has a negative effect on overall development activities. Many programs and projects are conceived and implemented within the limits of particular agencies and administrative boundaries and without seeking to maximize their impact and/or create broader areas of synergy. While cooperative

working relations have been established between certain agencies and administrations, most of this effort has been the result of individual initiatives and relations.

An overall vision of development within the region is currently missing. While the new regional authority could begin to play a coordinating role for the region, its relationship to the development activities of existing administrations and agencies is not yet clear. Regional authorities and agencies can play a leading key role in identifying the land use and environmental implications of sectoral policies in agriculture, energy, industry, housing, transportation, the provision of infrastructure, and waste management. They can also set the basic relationships and balance between economic and environmental concerns that will contribute to sustainable development.

Within this regional approach, principles of subsidarity need to be introduced that will allow decisions to be made at the lowest level compatible with attaining desired objectives. Application of such principles should maximize participation and effectiveness by dispersing responsibilities. The local level also needs to play a far more dynamic role and to make better use of innovation, initiative, and participation. The powers of both local and regional authorities need to be genuinely reinforced if they are to promote initiatives and facilitate the implementation of policies that will lead to sustainable development in their areas.

Issue 2: Lack of Reality in the Planning and Regulatory System

The planning and regulatory system in Morocco, like those in many other developing countries, has been based on outside models that do not fit very well with rapid urbanization. One of the major lessons learned from recent experience has been that the high level of technical competence and planning skills incorporated into planning documents have not been able to produce the desired results on the ground. This lack of success has been largely due to the technical vacuum in which the plans have been produced. Adequate contact with the local community and key information on land ownership have been missing. The current system, with its heavy reliance on physical plans and regulations, forces a large portion of the population to build illegally and, by doing so, limits the amount of local resources (e.g., formal credit, community participation, etc.) that can be generated for urban development. In this regard, current planning practices have had a more negative than positive impact.

Successful urban planning depends on sound information and the support of people at all levels of government, the private sector, and citizenry. The involvement of the local population as an integral contributor to the plan preparation and implementation process is an absolute necessity since they are the ones most directly affected by the planning effort. Effective urban planning also requires local knowledge, involvement, and spirit to provide the necessary energy, staying power, and creative ideas that will lead to successful implementation.

Community visioning is a key element in any strategic planning approach. It involves people developing a “sense of place” about their community and then deciding what this place should be and look like in the future. Such an approach requires very active leadership, vision, and innovation, which have not been encouraged by the current planning system.

Issue 3: Lack of Distinction between Urban Growth and Urban Development

Urban development is often confused with urban growth. While urban growth is a quantitative concept involving the physical expansion of a city’s built-up area, economy, boundaries, etc., urban development is more of a qualitative one incorporating ideas for improvement and progress in a city’s cultural, social, and economic dimensions as well as in the quality of the life for its residents. Because of rapid urbanization, Morocco has been obliged to focus more on urban growth than on sustainable urban development. In many cases, urban development also involves physical improvements that will improve social equity and/or

provide the underlying environment for positive social synergies to occur. The physical upgrading of sanitation facilities, for example, can be accompanied by community participation, micro-credits to local producers of sanitation equipment, urban health and hygiene education, regeneration of derelict land into open and play areas, etc. Achieving social equity through community quality is one of the primary goals of this synergistic development process. Part of this process will also involve the creation of various investment synergies that will make these outputs possible.

Issue 4: Inadequate Awareness of the Links between Urban Development and Natural Resources

Sustainable development involves the continuing supply of resources for future generations. It involves establishing patterns of development that minimize energy consumption, maintain land productivity, and encourage the recycling of urban throughput. Taken seriously, sustainable development should lead to urban development patterns that are more environmentally compatible, economically efficient, and socially equitable.

Awareness is growing that sustainable development can only be achieved by striking a mutually beneficial balance between the environment and economic growth. In most cases, limited management capacity and not the lack of technology or capital has been the major constraint to achieving such a balance. To improve management capacity requires new, more participatory approaches related to policy formulation and governance. Greater emphasis needs to be placed on leveraging a variety of resources from partnerships, broad-based community participation, and shared collective knowledge and know-how.

Issue 5: Insecure Sustainability of Socioeconomic Improvements

Social sustainability involves the ability of people to take collective actions to achieve fair access to the benefits of human progress. It requires the creation of spatial patterns and living environments in which all individuals and groups are treated fairly and provided with equal opportunity. While considerable progress has been made in a number of “people-level” socioeconomic areas, it remains relatively fragile and needs continued support and consolidation.

With rapid urbanization and urban development in Morocco, greater social equity for both moral and practical reasons is steadily becoming an important development issue. Both public policy and opinion are increasingly concerned by differences in the quality of life between regions. All efforts should be made to sustain the socioeconomic gains that have been made.

F. Recommendations

A wide range of activities can be undertaken to improve urban development in and around Moroccan cities. Many of these activities depend on re-establishing a sense of social and environmental awareness and commitment similar to those that governed urban and regional development in Morocco in its historic past and produced such remarkable cities as Fez, Marrakech, and Meknes. New development initiatives need to be based on common purpose and coordination, on a strong sense of community, and on ownership of the efforts and actions to be undertaken. One way to begin to approach this result is through the successful use of a broad range of partnership arrangements aimed at alleviating all forms of “poverty” related to the physical, social, financial, and natural resource conditions of Moroccan cities and their related hinterlands.

Partnerships Against Poverty

Partnership arrangements are becoming increasingly common in both developed and developing countries. They have proven themselves to be effective means of focussing and amplifying what would otherwise be disparate, individual efforts in the field of urban development. A similar interest in partnership arrangements is now beginning to emerge in Morocco, particularly as a result of previous structural adjustment measures in favor of private sector development and the growth of local community

associations. Growing potential therefore exists for the creation of a wide range of partnerships between public and private sector participants at the national, regional, and local levels. While results of partnership efforts would be most visible at the local or “people” level, replicable partnership arrangements would be conceived within a framework of regional development (either river basin or economic/administrative regions). Given the lack of experience of the recently formed regional council and its still-to-be-established administrative support, a certain amount of time will be required before this body can actively promote regional development. Active support for ongoing and potential partnerships can facilitate this changeover to a more regional perspective. A number of agencies with offices in the Souss-Massa region are already involved on a regional scale and could be used to initiate this effort. Among others, key agencies include the Urban Agency of Agadir (for planning), ANHI and ERAC (for land development and neighborhood upgrading), FEC (for financing), and the Department of Hydrology (for water resources). The newly forming regional association and local social and health offices could also be engaged as lead partners in this effort.

A full range of partnerships could be conceived to include land development, financing, construction, urban services, micro-enterprise, and the provision and operation of social and community facilities. Specific partnerships in residential land development, neighborhood upgrading, and the provision of basic environmental infrastructure are already under consideration and/or implementation in several areas. More attention needs be given to inventive financial, environmental, and social partnerships as well.

Partnership activities would focus specifically on the elimination of the “poverty environment” within urban areas at the regional level. They would address the physical, social, and economic degradation of urban areas and their immediate hinterlands. They would also seek out and reinforce potential synergies that exist between various actions.

Control and stimulation of urban development would be achieved by the creation of genuine stakeholders through the partnership process. These partnerships would involve local communities and neighborhood associations, municipal and local authorities, specialized development agencies working in the region, government offices, and central government. They would be developed in support of regional council efforts to develop the region, to further the cause of the region at the national level, and to promote real and sustainable development.

Typical partnerships to improve physical conditions would include those related to water supply, wastewater, and solid waste collection; greater availability and use of open spaces for women and children; improvements in neighborhood circulation and parking; and promotion of urban farming and ecological regeneration. Typical partnerships to improve social facilities would include, among other things, ensuring the availability of land for necessary facilities, financing construction and staffing of facilities, and generating revenues for development. The focus in each case would be placed on improving the quality of the overall environment and reducing urban poverty by creating a number of “best practice” applications that could be replicated throughout the region.

Part of this partnership approach will involve spreading the knowledge base for urban planning and development to the local population. Most of the migrant population from rural areas is not aware of the basic development possibilities that exist. It will require “visioning” the future cities of the region and re-establishing a form of Moroccan “pattern language” or modern “best practices” that can be appreciated and used by the local population.

Partnerships with government agencies and local professionals should also include the provision of technical assistance to municipalities, education of elected officials about urban development, and application of modern planning procedures to solicit public opinion and enlist support. Technical aspects of

urban development would be simplified and aimed at those entities (local authorities, companies, and individual investors) responsible for making necessary decisions.

Partnerships would also be sought to "regenerate" the substandard quality of the urban environment around city centers and to resolve natural resource problems generated by urban "throughput." They would also be formed with landowners, informal subdividers, and small-scale builders to establish a better understanding of the informal "rules" followed in unauthorized development and the potential of merging these rules with modern regulations.

In summary, the development of a broad-based partnership approach aimed at addressing the full consequences of poverty in urban areas could be used to help:

- establish a regional point of view;
- improve and disseminate the knowledge base for local development;
- leverage and add value to small-scale individual investments;
- create better channels of cooperation; and
- implement proactive urban regeneration (physical economic and social).

The end result of these efforts would be a reduction in all aspects of urban poverty at the individual, community, and regional levels. Within this context, quality-of-life issues would be emphasized. The recent seminar, "Action 30," held by MATEUH in late July 1998 expressed very serious concerns about the "urban landscape" and the need to take strong measures to improve the aesthetic qualities of Moroccan cities. These measures should not simply focus on additional legislation and planning documents to enforce poorly understood concepts on the local population. Nor should they simply provide measures to beautify or to cover over aesthetic sore spots in the urban environment. They need to be an integral part of the very fundamental changes that are taking place in Moroccan cities and to help generate genuine improvements in the nature and performance of these places.

Annex

Key Macroeconomic Data and Indicators

Data/Indicator	1992	1993	1994	1995	1996	1997
DH/US$1	8.54	9.31	9.17	8.49	8.72	9.60
GDP Current Prices (MDH)	242,912	249,223	279,323	281,207	320,920	323,903
GDP Current Prices (US$ millions)	28,431	26,764	30,457	33,126	36,793	33,740
Price Basis 100: 7/1975 - 6/1976	322.1	333.3	339.9	351.7	362.4	374.0
GDP (1997 prices)	282,049	279,654	307,343	299,035	331,189	323,903
GDP deflator	4.4	3.6	1.5	8.3	1.9	1.9
Consumer prices	5.7	5.2	5.1	6.1	3.0	3.0
GDP in 1997 DH (% change)						
Total GDP	-4.0	-1.0	10.4	-7.0	12.0	-2.2
Primary Sector	-36.9	-4.7	61.4	-43.9	78.8	--
Secondary Sector	2.4	-1.0	4.0	3.6	4.5	--
Tertiary Sector	7.0	-2.2	2.9	-0.6	2.5	--
Government	2.9	4.9	-0.3	4.7	2.4	--
Gross Fixed Investment	22.4	22.8	20.7	22.4	20.2	--
Gross National Savings	22.1	20.9	19.0	16.9	18.8	--
Current DH Millions						
Imports of Goods/Nonfactor Services	66,829	67,025	83,518	94,185	93,049	--
Total Resources	309,741	316,248	362,841	375,392	413,969	--
Gross Domestic Expenditure	267,356	271,698	304,645	309,596	345,101	--
Domestic Consumption	210,983	215,723	245,023	249,094	279,102	--
Nongovernment	170,137	170,670	197,170	200,758	226,511	--
Government	40,846	45,053	47,853	48,336	52,591	--
Gross Fixed Investment	54,364	56,719	57,900	62,899	64,744	--
Nongovernment	47,702	47,831	49,078	53,763	57,033	--
Government	6,662	8,888	8,822	9,136	7,711	--
Change in Stocks	2,009	-744	1,722	-2,397	1,255	--
Export of Goods/Nonfactor Services	42,385	44,550	58,196	65,796	68,868	--
Net Income from Abroad	11,940	9,063	10,115	8,053	9,413	--
National Disposable Income	254,852	258,286	289,438	289,260	330,333	--
As % of GDP						
GDP	100%	100%	100%	100%	100%	--
Imports of Goods/Nonfactor Services	27.5%	26.9%	29.9%	33.5%	29.0%	--
Total Resources	127.5%	126.9%	129.9%	133.5%	129.0%	--
Gross Domestic Expenditure	110.1%	109.0%	109.1%	110.1%	107.5%	--
Domestic Consumption	86.9%	86.6%	87.7%	88.6%	87.0%	--
Nongovernment	70.0%	68.5%	70.6%	71.4%	70.6%	--
Government	16.8%	18.1%	17.1%	17.2%	16.4%	--
Gross Fixed Investment	22.4%	22.8%	20.7%	22.4%	20.2%	--
Nongovernment	19.6%	19.2%	17.6%	19.1%	17.8%	--
Government	2.7%	3.6%	3.2%	3.2%	2.4%	--
Change in Stocks	0.8%	-0.3%	0.6%	-0.9%	0.4%	--
Export of Goods/Nonfactor Services	17.4%	17.9%	20.8%	23.4%	21.5%	--
Net Income from Abroad	4.9%	3.6%	3.6%	2.9%	2.9%	--
National Disposable Income	104.9%	103.6%	103.6%	102.9%	102.9%	--
Agriculture	13.7%	13.2%	19.3%	11.6%	18.5%	--
Secondary Sector	29.2%	29.2%	27.5%	30.6%	28.6%	--
Mining	2.9%	2.9%	2.8%	3.1%	2.8%	--
Fuel	1.4%	1.4%	1.3%	1.3%	1.2%	--
Water/Energy	2.4%	2.3%	2.3%	3.0%	3.3%	--
Manufacturing	18.1%	18.1%	17.1%	19.0%	17.4%	--
Construction	4.3%	4.4%	3.9%	4.2%	3.9%	--
Services	57.2%	57.7%	53.3%	57.8%	52.9%	--
Public Administration	16.5%	17.5%	15.8%	17.8%	16.3%	--

Cultivated Surface Area, Production, and Yield of Main Crops, 1991-1996

Crop	1991-92	1992-93	1993-94	1994-95	1995-96	Average	% Total
Cultivated Area (hectare 000s)							
Cereals	5,013	5,020	6,074	3,986	5,981	5,215	56%
Hard Wheat	1,088	1,134	1,336	820	1,249	1,125	12%
Soft Wheat	1,140	1,177	1,714	1,148	1,964	1,428	15%
Barley	2,233	2,151	2,582	1,579	2,430	2,195	24%
Corn	454	447	324	387	254	373	4%
Other	98	112	118	52	85	93	1%
Vegetables	450	322	347	316	312	350	4%
Oil Seeds	219	251	98	72	109	150	2%
Sunflower	196	230	68	63	96	131	1%
Peanut	23	21	30	9	13	19	0%
Industrial Crops	157	146	151	157	154	153	2%
Beets	62	68	64	68	57	64	1%
Other	95	78	87	89	97	107	1%
Animal Fodder	171	168	171	217	211	188	2%
Market Gardening	208	204	225	175	235	209	2%
Fallow Lands	2,523	2,687	1,812	3,824	1,827	2,535	27%
Fruits	653	664	666	725	736	689	7%
Indoor Crops	199	207	252	181	273	222	2%
Total	9,195	9,256	9,291	9,291	9,292	9,265	100%
Total Production and Yield per Hectare (metric tonne 000s)						Min/Max Ratio	
Cereals	29,421	28,100	96,282	17,658	100,932	1: 5.7	
Yield	5.9	5.6	15.9	4.4	16.9	1: 3.8	
Hard Wheat	6,818	6,313	23,423	4,387	22,698	1: 5.3	
Yield	6.3	5.6	17.5	5.3	18.2	1: 3.4	
Soft Wheat	8,804	9,417	31,809	6,520	36,460	1: 5.6	
Yield	7.7	8.0	18.6	5.7	18.6	1: 3.3	
Barley	10,807	10,268	37,199	6,077	38,311	1: 6.3	
Yield	4.8	4.8	14.4	3.8	15.8	1: 4.2	
Corn	2,156	923	2,026	505	2,351	1: 4.7	
Yield	4.8	2.1	6.3	1.3	9.3	1: 7.2	
Rice	221	535	696	35	534	1: 20.0	
Yield	30.7	50.0	65.0	49.6	58.0	1: 2.1	
Vegetables	1,545	774	2,767	874	2,734	1: 3.6	
Yield	3.4	2.5	8.1	2.8	8.8	1: 3.5	
Industrial Crops	37,538	41,090	40,725	37,495	36,517	1: 1.1	
Yield	260.1	282.0	262.7	238.8	237.4	1: 1.2	
Beets	27,541	31,623	31,439	27,174	27,496	1: 1.2	
Yield	528.6	506.8	499.8	467.7	484.9	1: 1.1	

Source: Ministry of Agriculture

Production, Transformation, and Sale of Phosphate, 1992-1996

Product/Source	1992	1993	1994	1995	1996
Phosphate					
Extraction (ton 000s)	16,920	15,833	18,416	20,338	20,740
Youssoufia	3,147	3,121	2,845	2,793	2,584
Khouribga	10,718	9,212	11,773	12,885	13,634
Benguerir	2,315	2,218	2,404	3,121	3,204
Boucraâ	740	1,282	1,394	1,539	1,318
Commercial Production (ton 000s)	19,145	18,305	20,335	20,314	20,792
Youssoufia	3,351	3,187	3,328	3,134	2,350
Khouribga	11,933	11,376	12,691	12,736	14,038
Benguerir	2,560	2,185	2,854	3,032	3,127
Boucraâ	1,301	1,557	1,462	1,412	1,277
Domestic Sales (ton 000s)	10,562	9,985	10,906	10,766	10,534
Youssoufia	2,829	2,724	2,850	2,837	2,407
Khouribga	5,139	5,044	5,104	5,168	5,462
Benguerir	2,594	2,217	2,952	2,761	2,665
Exports (ton 000s)	9,129	8,398	9,527	9,420	10,140
% Total	48%	46%	47%	46%	49%
Exports (millions DH)	2,621	2,416	2,584	2,426	3,030
Phosphate Derivates					
Phosphoric Acid (ton 000s)	1,454	1,434	1,675	1,723	1,618
Phosphoric Acid (millions DH)	3,425	3,256	4,327	4,699	4,598
Other Derivatives (ton 000s)	3,899	5,089	4,611	4,704	4,781
Domestic Sales (ton 000s)	336	290	309	276	273
% Total Sales	8.6%	5.7%	6.7%	5.9%	5.7%
Domestic Sales (millions DH)	515	427	467	478	486
Exports (ton 000s)	3,284	3,824	3,335	3,488	3,492
Exports (millions DH)	6.3	5.9	6.4	7.6	8.1

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